APPENDIX "E"

Canada

AIR TRANSPORT BOARD

REPORT

ON

REVIEW OF LICENCES RESPECTING COMMERCIAL AIR SERVICES PURSUANT TO SECTION 13 OF THE AERONAUTICS ACT

LICENCES IN

GROUP 5—BRITISH COLUMBIA (MAINLAND)
AND YUKON TERRITORY

OTTAWA, CANADA,
APRIL, 1947.

GROUP V

BRITISH COLUMBIA MAINLAND AND YUKON

ERRATA

Page 1 - Under Licence No. CTC (AT) 84
After "Canadian Pacific Air Lines" add the word "Limited".

Pages 1 & 2 - Under Licences Nos. CTC (AT) 67, 69, 71 and 79
After "Yukon Southern Air Transport" add the word "Limited".

Page 18 - DOG CREEK, B.C.
Under Facilities
Radio Range
Frequencies
For "3107.5" read "3017.5"

Page 32 - WHITEHORSE, Y.T.
Under Facilities
Lighting
for "Bantow" read "Bartow".

Page 39 - Under (C)
For "Gouglas Dorey Tod" read "Douglas Dorey Tod"

GROUP V - BRITISH COLUMBIA MAINLAND AND YUKON

SECTION 1

(1) The licences covered by this review in Group 5 are as follows:

Licence No. CTC(AT)60

Operator: Canadian Airways Limited

Route: Fort St. James, Pinchi Lake, Manson Creek, Germansen Lake, Germansen Landing, Takla Landing, Uslika Lake, Aiken Lake, Bear Lake, Prince George, in the Province of British Columbia,

Licence No. CTC(AT)84

Operator: Canadian Pacific Air Lines

Route: Finlay Forks, Fort Grahame, Fort Ware, Lower Post, McLeod Lake, Prince George, in the Province of British Columbia; Watson Lake, in the Yukon Territory

Licence No. CTC(AT)67

Operator: Yukon Southern Air Transport

Route: Vancouver, Williams Lake, Prince George, Fort St. John, Fort Nelson and Lower Post, in the Province of British Columbia; Watson Lake, Teslin and Whitehorse, in the Yukon Territory.

Licence No. CTC(AT)69

Operator: Yukon Southern Air Transport

Route: Prince George, Fort St. James, Manson Creek, Germansen Landing, Takla Landing, Uslika Lake, Bear Lake, Aiken Lake, McConnell Creek, Thutade Lake, and Two Brothers Lake, in the Province of British Columbia.

Licence No. CTC(AT)71

Operator: Yukon Southern Air Transport

Route: Fort St. John, Red Fern Lake, Tuchodi Lake, Fort Nelson and Nelson Forks, in the Province of British Columbia; Liard, South Nahanni and Simpson, in the Northwest Territories.

Licence No. CTC(AT)79

Operator: Yukon Southern Air Transport

Route: Whitehorse, Mayo, Carmacks, Selkirk, Dawson, in the Yukon Territory.

Licence No. CTC(AT)41

Operator: Northern Airways Limited

Route: Atlin, in the Province of British Columbia; Carcross, in the Yukon Territory.

Licence No. CTC(AT)42

Operator: Northern Airways Limited

Route: Atlin, Telegraph Creek, in the Province of British Columbia.

(2) The history of these licences is as follows:

Licence No. CTC(AT)60

Pursuant to the provisions of the Air Transport Act 1938, Canadian Airways Limited applied to the Board of Transport Commissioners on February 10th, 1939, for a licence to operate a scheduled commercial air service to transport passengers and goods from the terminal point Fort St. James, B.C. and serving the intermediate points Pinchi L., Manson L., Germansen L., Germansen Ldg., Takla Landing, Uslika L., Aiken L., Bear L., Manson L., Finlay Forks, Fort Grahame, Fort St. John, McLeod Lake, Prince George.

Licence No. CTC(AT)60 (cont'd)

Subsequently the Board of Transport Commissioners issued Licence No. CTC(AT)60 on December 6th, 1939, to the company which authorized a scheduled commercial air service between Fort St. James, Pinchi Lake, Manson Creek, Germansen Lake, Germansen Landing, Takla Landing, Uslika Lake, Aiken Lake, Bear Lake, Prince George, in the Province of British Columbia.

Since the inception of the Air Transport Board licence CTC(AT)60 has been renewed from time to time by Order of the Board pending the review of former licences, pursuant to Part II, Section 13, of the Aeronautics Act.

Licence No. CTC(AT)84

Pursuant to the provisions of the Air Transport Act 1938, Canadian Pacific Air Lines Limited applied to the Board of Transport Commissioners on January 25th, 1943, for a licence to operate a scheduled commercial air service to transport passengers and goods between the terminal points Prince George, McLeod Lake, Finlay Forks, Fort Grahame, Fort Ware, Lower Post, in the Province of British Columbia, Watson Lake, in the Yukon Territory.

Subsequently the Board of Transport Commissioners issued Licence No. CTC(AT)84 on May 12th, 1943, to the company which authorized a scheduled commercial air service between Finlay Forks, Fort Grahame, Fort Ware, Lower Post, McLeod Lake, Prince George, B.C.; Watson Lake, Y.T.

Since the inception of the Air Transport Board licence CTC(AT)84 has been renewed from time to time by Order of the Board pending the review of former licences, pursuant to Part II, Section 13, of the Aeronautics Act.

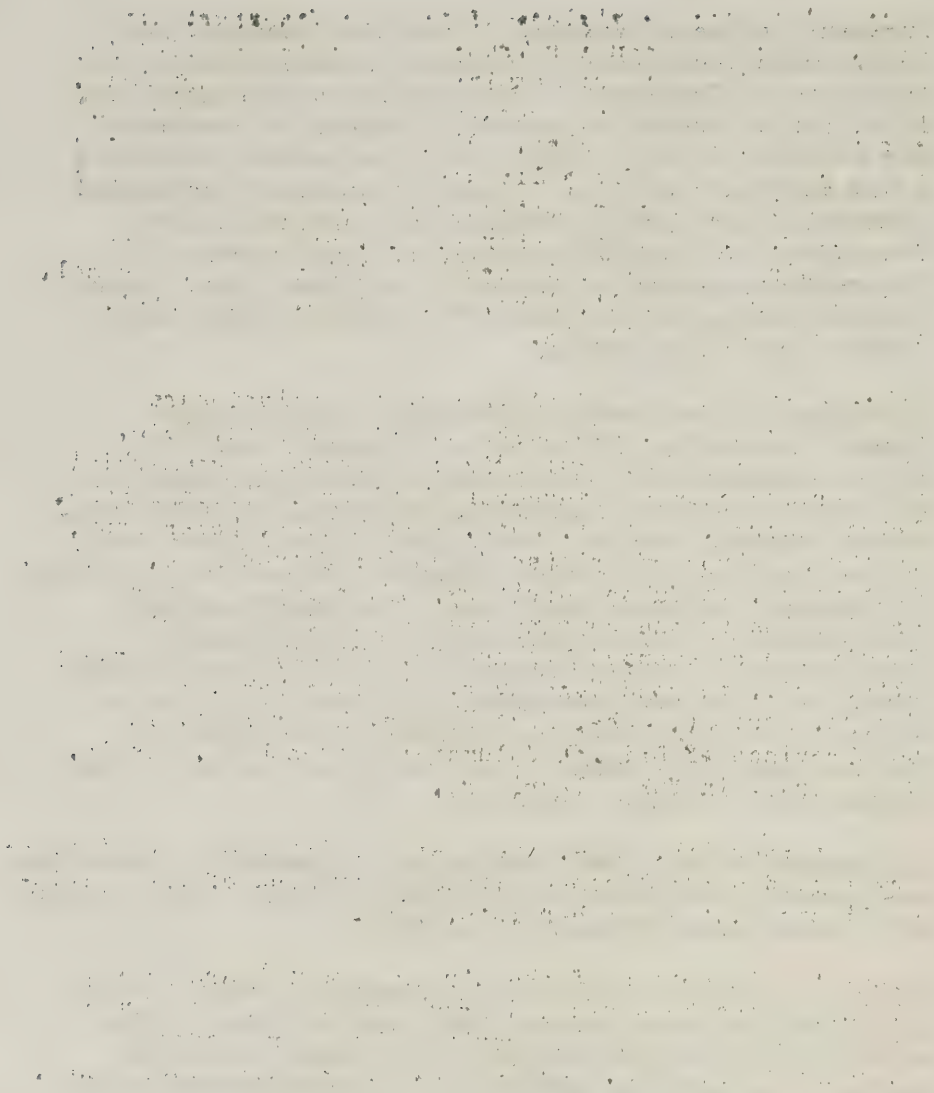
Licence No. CTC(AT)67

Pursuant to the provisions of the Air Transport Act 1938, Yukon Southern Air Transport Limited applied to the Board of Transport Commissioners on February 17th, 1939, for a licence to operate a scheduled commercial air service, on July 31st, 1939, the company submitted a new application for a licence to operate a scheduled commercial air service between the terminal points Vancouver, B.C. and Whitehorse, Y.T. and serving the intermediate points of Ashcroft, Williams Lake, Quesnel, Prince George, Ft. St. John, Ft. Nelson, Lower Post, (Watson Lake) and Teslin.

Subsequently the Board of Transport Commissioners issued Licence No. CTC(AT)67 on October 15th, 1940, to the company which authorized a scheduled commercial air service between Vancouver, Kamloops, Williams Lake, Prince George, Fort St. John, Fort Nelson, Lower Post, in the Province of British Columbia; Watson Lake, Teslin, Whitehorse, in Yukon Territory, after supplementary application by the company the Board of Transport Commissioners amended Licence No. CTC(AT)67 on February 27th, 1941, to read Vancouver, Williams Lake, Prince George, Fort St. John, Fort Nelson, Lower Post, in the Province of British Columbia; Watson Lake, Teslin, Whitehorse, in Yukon Territory.

On September 7th, 1944, the Board of Transport Commissioners issued a new licence CTC(AT)67 in lieu of the original licence dated October 15th, 1940.

Since the inception of the Air Transport Board licnece CTC(AT)67 has been renewed from time to time by Order of the Board pending the review of former licences, pursuant to Part II, Section 13, of the Aeronautics Act.



Licence No. CTC(AT)69

Pursuant to the provisions of the Air Transport Act 1938, Yukon Southern Air Transport Limited applied to the Board of Transport Commissioners on April 4th, 1939, for a licence to operate a scheduled commercial air service to transport passengers and goods between the terminal points Prince George, B.C. and Takla Landing, B.C. and serving the intermediate points of Fort St. James, Manson Creek and Germansen Landing.

Subsequently the Board of Transport Commissioners issued Licence N. CTC(AT)69 on October 15th, 1940, to the company which authorized a scheduled commercial air service between Prince George, Fort St. James, Manson Creek, Germansen Landing, Takla Landing, Uslika Lake, Bear Lake, Aiken Lake, McConnell Creek, Thutade Lake, Two Brothers Lake, in the Province of British Columbia.

On September 7th, 1944, the Board of Transport Commissioners issued a new licence CTC(AT)69 in lieu of the original licence dated October 15th, 1940.

Since the inception of the Air Transport Board licence CTC(AT)69 has been renewed from time to time by Order of the Board pending the review of former licences, pursuant to Part II, Section 13, of the Aeronautics Act.

Licence No. CTC(AT)71

Pursuant to the provisions of the Air Transport Act 1938, Yukon Southern Air Transport Limited applied to the Board of Transport Commissioners on July 31st, 1939, for a licence to operate a scheduled commercial air service to transport passengers and goods between points Fort St. John, B.C. and Simpson, N.W.T., and serving the intermediate points of Tuchodi Lake, Trimble Lake, Red Fern Lake, Blue Lake, Ft. Nelson, Nelson Forks, Liard, South Nahanni.

Subsequently the Board of Transport Commissioners issued Licence No. CTC(AT)71 on October 15th, 1940, to the company which authorized a scheduled commercial air service between Fort St. John, Red Fern Lake, Blue Lake, Tuchodi Lake, Fort Nelson, Nelson Forks, in the Province of British

Licence No. CTC(AT)71 (cont'd)

Columbia; Liard, South Nahanni, Simpson, in the Northwest Territories.

On September 5th, 1944, the Board of Transport Commissioners issued a new licence CTC(AT)71 in lieu of the original licence dated October 15th, 1940.

Since the inception of the Air Transport Board licence CTC(AT)71 has been renewed from time to time by Order of the Board pending the review of former licences, pursuant to Part II, Section 13, of the Aeronautics Act.

Licence No. CTC(AT)79

Pursuant to the provisions of the Air Transport Act 1938, Yukon Southern Air Transport Limited applied to the Board of Transport Commissioners on April 15th, 1942, for a licence to operate a scheduled commercial air service to transport passengers and goods between the terminal points Whitehorse and Dawson, Yukon Territory, and serving the intermediate points of Carmacks, Selkirk, Mayo, in the Yukon Territory,

Subsequently the Board of Transport Commissioners issued Licence No. CTC(AT)79 on July 9th, 1942, to the company which authorized a scheduled commercial air service between Whitehorse, Carmacks, Selkirk, Mayo, Dawson, in Yukon Territory.

On June 10th, 1944, the Board of Transport Commissioners issued a new licence CTC(AT)79 in lieu of the original licence dated July 9th, 1942,

Since the inception of the Air Transport Board licence CTC(AT)79 has been renewed from time to time by Order of the Board pending the review of former licences, pursuant to Part II, Section 13, of the Aeronautics Act.

Licence No. CTC(AT)41

Pursuant to the provisions of the Air Transport Act 1938, Northern Airways Limited applied to the Board of Transport Commissioners on April 20th, 1939, for a licence to operate a scheduled commercial air service to transport passengers and goods between the terminal points Carcross, Y.T. and Atlin, B.C.

Subsequently the Board of Transport Commissioners issued Licence No. CTC(AT)41 on August 22nd, 1939, to the company which authorized a scheduled commercial air service between Atlin, in the Province of British Columbia and Carcross, Yukon Territory.

On August 2nd, 1943, the Board of Transport Commissioners issued a new licence CTC(AT)69 in lieu of the original licence dated August 22nd, 1939.

Since the inception of the Air Transport Board licence CTC(AT)41 has been renewed from time to time by Order of the Board pending the review of former licences, pursuant to Part II, Section 13, of the Aeronautics Act.

Licence No. CTC(AT)42

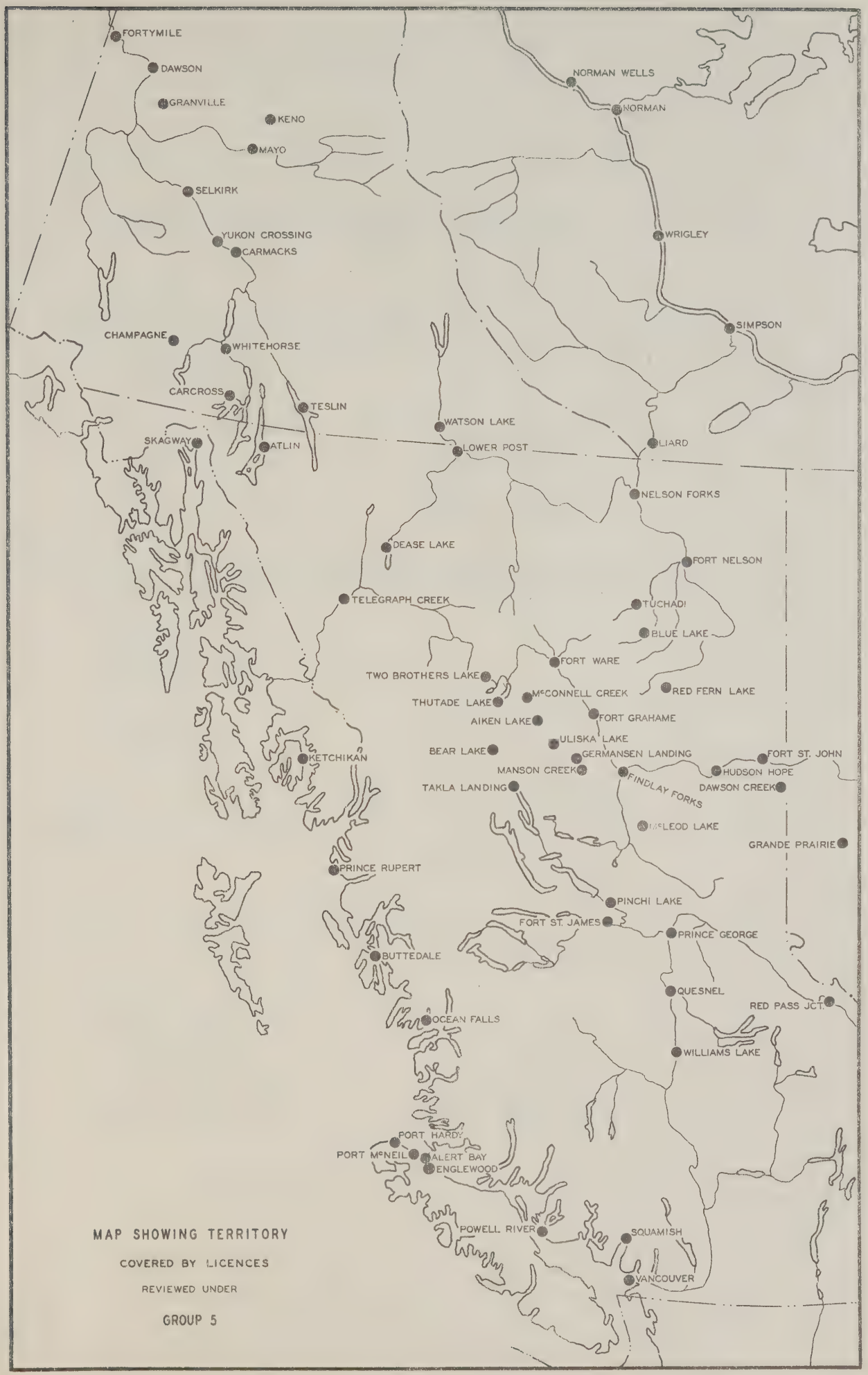
Pursuant to the provisions of the Air Transport Act 1938, Northern Airways Limited applied to the Board of Transport Commissioners on April 9th, 1939, for a licence to operate a scheduled commercial air service to transport passengers and goods between the terminal points Atlin, B.C. and Telegraph Creek, B.C.

Subsequently the Board of Transport Commissioners issued Licence No. CTC(AT)42 on August 22nd, 1939, to the company which authorized a scheduled commercial air service between Atlin, Telegraph Creek, in the Province of British Columbia.

On August 2nd, 1943, the Board of Transport Commissioners issued a new licence CTC(AT)42 in lieu of the original licence dated August 22nd, 1939.

Licence No. CTC(AT)42 (cont'd)

Since the inception of the Air Transport Board licence CTC(AT)42 has been renewed from time to time by Order of the Board pending the review of former licences, pursuant to Part II, Section 13, of the Aeronautics Act.


FORTYMILE
DAWSON
GRANVILLE
KENO
MAYO
SELKIRK
YUKON CROSSING
CARMACKS
CHAMPAGNE
WHITEHORSE
CARCROSS
TESLIN
SKAGWAY
ATLIN
WATSON LAKE
LOWER POST
DEASE LAKE
TELEGRAPH CREEK
KETCHIKAN
PRINCE RUPERT
BUTTEDALE
OCEAN FALLS
PORT HARDY
PORT McNEIL
ALERT BAY
ENGLEWOOD
POWELL RIVER
SQUAMISH
VANCOUVER
NORMAN WELLS
NORMAN
WRIGLEY
SIMPSON
LIARD
NELSON FORKS
FORT NELSON
TUCHADI
BLUE LAKE
FORT WARE
TWO BROTHERS LAKE
McCONNELL CREEK
RED FERN LAKE
THUTADE LAKE
FORT GRAHAME
AIKEN LAKE
ULISKA LAKE
BEAR LAKE
GERMANSEN LANDING
FORT ST. JOHN
MANSON CREEK
HUDSON HOPE
FINDLAY FORKS
TAKLA LANDING
DAWSON CREEK
McLEOD LAKE
GRANDE PRAIRIE
PINCHI LAKE
FORT ST. JAMES
PRINCE GEORGE
QUESNEL
RED PASS JCT.
WILLIAMS LAKE
MAP SHOWING TERRITORY
COVERED BY LICENCES
REVIEWED UNDER
GROUP 5

SECTION 2

Airports and Air Navigation Aids Available

Summary

(a) Airports having all facilities for twenty-four hour operation of airline medium type aircraft.

Abbotsford, B.C.	
Fort Nelson, B.C.	C.T.C. (AT) 67, 71
Fort St. John, B.C.	C.T.C. (AT) 67, 71
Vancouver, B.C. (Sea Island)	C.T.C. (AT) 67
Watson Lake, Y.T.	C.T.C. (AT) 67, 84
Whitehorse, Y.T.	C.T.C. (AT) 67, 79

(b) Airports having adequate dimensions for airline medium type aircraft but lacking full air navigation facilities.

Boundary Bay, B.C.	
Dawson Creek, B.C.	
Dog Creek, B.C.	
Penticton, B.C.	
Prince George, B.C.	C.T.C. (AT) 60, 67, 69, 84
Terrace, B.C.	
Vanderhoof, B.C.	

(c) Airports with inadequate dimensions, or with few or no facilities or in disrepair.

Dawson	C.T.C. (AT) 79

(d) Seaplane Bases with full facilities.

Fort St. John, B.C.	C.T.C. (AT) 67, 71
Jericho Beach, B.C.	
Penticton, B.C.	
Prince Rupert, B.C.	
Vancouver, B.C. (Sea Island)	C.T.C. (AT) 67
Watson Lake, Y.T.	C.T.C. (AT) 67, 79
Whitehorse, Y.T.	C.T.C. (AT) 67, 84

(e) Seaplane Bases with limited facilities and anchorage only.

Atlin, B.C.	C.T.C. (AT) 41, 44
Dease Lake, B.C.	
Fort St. James, B.C.	C.T.C. (AT) 69
Kootenay Lake, B.C.	
Seton Lake, B.C.	

(f) Landing Fields and Seaplane Bases with little or no facilities or for emergency use only.

Landing Fields

Aishihik, Y.T.	
Atlin, B.C.	C.T.C. (AT) 41, 44
Braeburn, Y.T.	
Beatton River, B.C.	
Boston Bar, B.C.	
Burwash Landing, Y.T.	
Carcross, Y.T.	
Carmacks, Y.T.	C.T.C. (AT) 79
Carmi, B.C.	
Castlegar, B.C.	
Cranbrook, B.C.	
Crescent Valley, B.C.	
Creston, B.C.	
Crooked Creek, Y.T.	
Fernie, B.C.	
Fort St. John (old), B.C.	C.T.C. (AT) 67, 71
Grand Forks, B.C.	
Hope, B.C.	
Kamloops, B.C.	
Kimberley, B.C.	
Kitchener, B.C.	
Laberge, Y.T.	
Langley, B.C.	
Liard River, B.C.	
Lower Laberge, Y.T.	
Mayo, Y.T.	C.T.C. (AT) 79
McQuesten, Y.T.	
Midway, B.C.	
Minto, Y.T.	
Montague Lake, Y.T.	

Landing Fields (Cont'd.)

Oliver, B.C.	
Pine Lake, Y.T.	
Pon Lake, Y.T.	
Princeton, B.C.	
Prophet River, B.C.	
Quesnel, B.C.	
Rock Creek, B.C.	
Rutland, B.C.	
Selkirk, Y.T.	C.T.C. (AT) 79
Sikanni Chief, B.C.	
Smithers, B.C.	
Smith River, B.C.	
Snag, Y.T.	
Squanga Lake, Y.T.	
Sumas, B.C.	
Telegraph Creek, B.C.	C.T.C. (AT) 44
Teslin, Y.T.	
Trail, B.C.	
Tulsequah, B.C.	
Upper Laberge, Y.T.	
Williams Lake, B.C.	C.T.C. (AT) 67
Windermere, B.C.	
Woodcock, B.C.	
Yahk, B.C.	
Yukon Crossing, Y.T.	

Seaplane Bases

Aiken Lake, B.C.	C.T.C. (AT) 60, 69
Allison Harbour, B.C.	
Bear Lake, B.C.	C.T.C. (AT) 60, 69
Blue Lake, B.C.	C.T.C. (AT) 71
Carcross, Y.T.	C.T.C. (AT) 41
Dawson, Y.T.	C.T.C. (AT) 79
Finlay Forks, B.C.	C.T.C. (AT) 84
Fort Graham, B.C.	C.T.C. (AT) 84
Fort Liard, N.W.T.	C.T.C. (AT) 71
Fort Ware, B.C.	C.T.C. (AT) 84
Germansen Lake, B.C.	C.T.C. (AT) 60
Germansen Landing, B.C.	C.T.C. (AT) 60, 69
Lowe Inlet, B.C.	

Seaplane Bases (Cont'd.)

Lower Post, B.C.	C.T.C. (AT) 67
Manson Creek, B.C.	C.T.C. (AT) 60, 69
McConnell Creek, B.C.	C.T.C. (AT) 69
McLeod Lake, B.C.	C.T.C. (AT) 84
Moyie Lake, B.C.	
Nelson Forks, B.C.	C.T.C. (AT) 71
Pinchi Lake, B.C.	C.T.C. (AT) 60
Porpoise Bay, B.C.	
Port Simpson, B.C.	
Red Fern Lake, B.C.	C.T.C. (AT) 71
Salmon Arm, B.C.	
Simpson, N.W.T.	C.T.C. (AT) 71
Skaha Lake, B.C.	
South Nahanni, N.W.T.	C.T.C. (AT) 71
Summit Lake, B.C.	
Swanson Bay, B.C.	
Takla Landing, B.C.	C.T.C. (AT) 60, 69
Teslin, Y.T.	C.T.C. (AT) 67
Thutade Lake, B.C.	C.T.C. (AT) 69
Tuchodi Lake, B.C.	C.T.C. (AT) 71
Two Brothers Lake, B.C.	C.T.C. (AT) 69
Uslika Lake, B.C.	C.T.C. (AT) 60, 69
Vernon, B.C.	
Williams Lake, B.C.	C.T.C. (AT) 67

ABBOTSFORD, B.C. Altitude 180' Landing Field

Position: Air Nav. Chart Victoria - Vancouver
49° 01' N. 122° 22' W.
37 miles E.S.E. of Vancouver

Runways: Nature- Concrete Dimensions 5100' x 200'
5100' x 200'
5098' x 200'

Classification- Good

Ownership- Dominion Government
Operated by R.C.A.F. T.C.A. & C.P.A.L. Alternate to Vancouver when Sea Island is closed by fog

Facilities: Repairs- Minor Fuel 100 Oil 100
Hangars

Communication- Telephone, Radio, Teletype
Telegraph in Vancouver

Transportation- M.T. - Road

Passenger
Facilities- Accommodation available

Lighting- Rotating beacon, code beacon, contact lights, range lights, obstruction lights, lighted wind tee, electric flare path (on 30 minutes' notice)

Radio Range Call Sign VFEY W/T

Frequencies Recs. 3105 4495 6210
Trans. 344

Meteorological
Facilities- Teletype reporting station

ATLIN, B.C. Altitude 2400' Landing Field
2200' Seaplane Base

Position: 59° 34' N. 133° 39' W.
(E. Shore of Atlin Lake)

Runways: Nature- Gravel Dimensions 3200' x 400'

Classification- Emergency only

Ownership- Government of B.C.

Alighting Area: Atlin Lake E/W 4 miles NE/SW & NW/SE 3 miles
N/S 9 miles

Break-up- 1 May

Freeze-up- 1 Nov.

No buoys - beach aircraft Operated by Atlin Board of Trade

Facilities: Fuel and Oil available from Carcross

Communication- Radio
Telegraph & telephone in town

Transportation- Nil

Passenger Facilities- Accommodation in town

BOUNDARY BAY, B.C. Altitude 4' Landing Field

Position: 15 miles S. of Vancouver

Runways: Nature- Concrete Dimensions 4879' x 200'
Concrete & Asphalt 6047' x 200'
Concrete & Asphalt 5746' x 200'

Ownership- Dominion Government
Operated by Army

Facilities: Hangars

Communication- Telephone

Transportation- Road to Vancouver (Bus)

Lighting- Rotating beacon, code beacon, portable electric flare path (15 minutes' notice) obstruction lights

DAWSON CREEK, B.C. Altitude 2196' Landing Field

Position: 55° 45' N. 120° 15' W.
1 mile S. of Dawson Creek

Runways: Nature- Asphalt Dimensions 6200' x 150'
penetration of gravel
Snow compaction in winter

Ownership- Leased from Silvio Rouilli
Operated by R.C.A.F.

Facilities: Communication- Telephone, teletype
Telegraph in town

Transportation- Highway and Railway

Lighting- Contact lights, range lights, flare path on request, flood lights, obstruction lights

Meteorological Facilities- Teletype reporting station

DEASE LAKE, B.C. Altitude 2425' Seaplane Base

Position:	58° 27' N. 130° 03' W.
Alighting Area:	N/S 6½ miles
	E/W 1 mile
	Break-up- 1 May
	Freeze-up- 1 Nov.
	No buoys - dock
Facilities:	Fuel Yes
	Communication- Radio
	Transportation- Road to Telegraph Creek
	Passenger Facilities- Accommodation
	Radio- Yes

DOG CREEK, B.C. Altitude 3382' Landing Field

Position: 51° 38' N. 122° 15' W.
35 miles S. of Williams Lake

Runways: Nature- Gravel Dimensions 6335' x 200'
6100' x 200'
6100' x 200'

Only one runway maintained in winter

Ownership- Dominion Government
Operated by Department of Transport

Facilities: Fuel Yes Oil Yes

Mobile Repair Party

Communication- Radio, Telephone, Teletype

Transportation- M.T.

Passenger
Facilities- Limited at field

Lighting- Portable electric flare path

Radio Range Call Sign VFGD W/T

Frequencies Recs. 3105 3107.5 4495
6210
Trans. 206

Meteorological
Facilities- Teletype reporting station

FORT NELSON, B.C. Altitude 1247' Landing Field

Position: 58° 50' N. 122° 35' W.
15 miles North of Clarke Lake

Runways: Nature- Asphalt Dimensions 6450' x 200'
4650' x 150'

Ownership- B.C. Government Operated by R.C.A.F.

Facilities: Repairs- Minor Fuel 90 & 100 Oil Yes
Hangars

Communication- Radio, Telephone, Teletype, Telegraph

Transportation- Road to Dawson Creek

Passenger Facilities- Limited

Lighting- Rotating beacon, boundary lights, contact lights, threshold lights, obstruction lights, portable electric flare path, lighted wind tee, Bartow approach light on one runway

Radio- Control tower R.C.A.F.

Radio Range Call Sign - VFCM W/T

Frequencies Recs. 3105 4495 5390
6210
Trans. 5390

Meteorological Facilities- Teletype reporting station

FORT ST. JAMES, B.C. Altitude 2230' Seaplane Base

Position:	54° 26' N. 124° 17' W.
Alighting Area:	Stuart Lake NW/SE, N/S & E/W 6 miles
	Classification- Usually good
	Break-up- 1 May
	Freeze-up- 1 Nov.
	No buoys tie to dock
	Strong wind creates heavy seas
Facilities	Fuel Yes
	Communication- Telegraph
	Transportation- Road to Vanderhoof on C.N.R.
	Passenger Facilities- Hotel

FORT ST. JOHN, B.C. Altitude 2276' Landing Field
Seaplane Base

Position: 4½ miles E. of Fort St. John
56° 14' N. 120° 44' W.

Runways: Nature Asphalt Dimensions 6700' x 200'
3500' x 75'(dirt)
6700' x 200'

Ownership- Dom. Government & B.C. Government
Operated by R.C.A.F.

Alighting Area: Charter Lake NW/SE 3.7 miles
NNW/SSE 3.5 miles, N/S 3 miles and
E/W 1.7 miles

Classification- Good

Break-up- 1 May

Freeze-up- 1 Nov.

R.C.A.F. no buoys skiplane in winter

Facilities: Repairs- Minor Fuel 73,91,100,130 Oil 100,
120

Hangars

Communication- Radio, Telephone, Teletype

Transportation- Highway

Passenger
Facilities- Limited

Lighting- Rotating beacon, Bartow approach
light for one runway, contact,
range and obstruction lights,
portable electric flare path,
lighted wind tee

Radio- Control tower - R.C.A.F.
Frequencies Recs. Various
Trans. Various

Radio Range Call Sign VFBJ W/T
Frequencies Recs. 3105,4495,5390,6210
Trans. 320, 5390

Meteorological
Facilities- Teletype reporting station

JERICHO BEACH, B.C. Altitude S.L. Seaplane Base

Position: N.W. limits of Vancouver City

Alighting Area: English Bay 071° - 251°M - 10 miles

Owned by Dom. Government Operated by R.C.A.F.

12 buoys, ramp, docks, hoist, sandy beach

(ramp at high tide only)

Facilities Repairs Major Fuel Yes Oil Yes

Hangars

Communication- Telephone, Teletype, Radio

Transportation- M.T. Bus, Tram, Railway

Passenger Facilities- Available at base

Lighting- Flare path on 30 minutes' notice

Radio- Control Tower

Frequencies Recs. 3017.5
Trans. 3017.5

KOOTENAY LAKE, B.C. Altitude 1750' (Approx.) Seaplane Base

Position: 49° 34' N. 117° 14' W.

Alighting Area: West Arm (N. of Nelson)

NE/SW 4 miles

Break-up- 16 Apr.

Freeze-up- 16 Nov.

R.C.A.F. No buoys Beach aircraft

Sandy beach only

Facilities: Fuel Yes Oil Yes

Machine shop at Nelson

Transportation- Road and Railway

Passenger Facilities- Hotels at Nelson

PENTICTON, B.C. Altitude 1124' Landing Field
1123' Seaplane Base

Position: 3 miles S. of Penticton)
49° 28' N. 119° 36' W.) (L.F.)
49° 30' N. 119° 36' W. (S.B.)

Runways: Nature- Asphalt Dimensions 5320' x 200'

Classification- Department of Transport
Intermediate airfield

Alighting Area: Okanagan Lake N/S 2.5 miles
NE/SW 1.3 miles NW/SE 1.1 miles

R.C.A.F. 1 buoy Tie to dock

Facilities: Repairs- Minor Fuel Yes Oil Yes

Communication- Telephone, Teletype,
Telegraph in town

Transportation- Highway, Railway

Passenger
Facilities- Hotels in town

Lighting- Rotating beacon, code beacon,
boundary, range, contact and
obstruction lights.

Radio Range Call Sign VFG W/T

Frequencies Recs. 3105, 3117.5, 4495,
6210

Trans. 290

PRINCE GEORGE, B.C. Altitude 2225' Landing Field

Position: 53° 54' N. 122° 40' W.
3 miles S.E. of Prince George

Runways: Nature- Asphalt Dimensions 5625' x 150'
5000' x 150'
5770' x 150'

Ownership- Dominion Government Operated by Department of Transport

Facilities: Repairs- Minor Fuel Yes Oil Yes
Hangars

Communication- Radio, Telephone, Teletype

Transportation- M.T.

Passenger Facilities- Available at field
Hotels in Prince George

Lighting- Rotating beacon, contact and obstruction lights, portable electric flare path

Radio Range Call Sign VFCP W/T

Frequencies Recs. 3105, 4795, 4755, 5390, 6210
Trans. 272, 4755, 5390

PRINCE RUPERT, B.C. Altitude S.L. Seaplane Base

Position: 54° 20' N. 130° 17' W.
Immediately N.E. of City

Alighting Area: Prince Rupert Harbour 015° - 195°M. 5 miles
Opposite seal cove 150° - 330°M. 2 miles

Dom. Government Operated by Department of Transport
Floating logs and debris - moorings - 2 ramps, dock, crane

Facilities: Repairs- Minor Fuel Yes Oil Yes
Hangars

Communication- Radio, Telephone, Teletype
Telegraph in town

Transportation- Water, Road, Railway

Passenger
Facilities- Available at base

Lighting- Portable electric flare path on
90 minutes' notice

Meteorological
Facilities- Teletype reporting station

SETON LAKE, B.C. Altitude 777' Seaplane Base

Position: 50° 43' N. 122° 15' W.

Alighting Area: E/W 3.5. miles ENE/WSW 3.2 miles
N/S 1.1 miles NW/SE 3.8 miles

Classification- Good

Break-up- 1 April

Freeze-up- 1 Dec.

No buoys - beach aircraft or tie up to dock
Ramp, wharf, and float

Facilities: Repairs- Minor Fuel Yes Oil Yes

Communication- Telegraph

Transportation- Road, Railway

TERRACE, B.C. Altitude 710' Landing Field

Position: 54° 28' N. 128° 35' W.
4 miles south of Terrace

Runways: Nature- Asphalt Dimensions 5200' x 200'
5200' x 200'
5200' x 200'

Ownership- Dom. Government Operated by Department of Transport

Facilities: Repairs- Minor Fuel Yes Oil Yes
Hangars

Communication- Telephone, Teletype

Transportation- M.T. Railway

Lighting- Portable electric flare path on 15 minutes' notice

Meteorological Facilities- Teletype reporting station

VANCOUVER, B.C. (Sea Island) — Altitude S.L. — Landing Field, Seaplane Base

Position: 49° 11' N. 123° 10' W.
8 miles S. of centre of City.

Runways:

Nature		Dimensions
Asphalt		3805' x 150'
Asphalt		5007' x 200'
Concrete		5170' x 200'

Ownership- Dom. Government
Operated by Department of Transport

Alighting Area: Fraser River - low tides 065° - 245°M, 4800'
" Middle Arm" " 098° - 278°M, 2000'
" High Tides All river is usable

Buoys, ramps and hoist

Facilities: Repairs- Minor Fuel Yes Oil Yes
Hangars

Communication- Telephone, Teletype, Radio Telegraph in City

Transportation- Bus to City

Passenger Facilities- Hotels in Vancouver

Lighting- Rotating beacon; approach, contact, range and obstruction lights

Radio- Control Tower

Radio Range Call Sign VFW W/T

Frequencies Recs. 3017.5, 3105, 3117.5, 4495, 6210
Trans. 248

Meteorological Facilities- Central independent forecast station

VANDERHOOF, B.C. Altitude 2225' Landing Field

Position:	54° 03' N. 124° 00' W. 2.5 miles N. of Vanderhoof	
Runways:	Nature- Gravel	Dimensions 5600' x 200' 5600' x 200' 5400' x 200'
	Ownership- Dom. Government	Operated by Department of Transport
Facilities:	Fuel Yes Oil Yes	
	Communication- Telephone, Telegraph	
	Transportation- Bus, Railway	
	Passenger Facilities- Hotel in town	
	Lighting- Portable flare path on request (runway 06 - 24 only)	

WATSON LAKE, Y.T. Altitude 2245' Landing Field
2200' Seaplane Base

Position 60° 07' N. 128° 51' W.

Runways: Nature- Asphalt Dimensions 5000' x 150'
5500' x 200'

Alighting Area: Watson Lake NW/SE 4 miles
NE/SW 2 miles E/W 3 miles
N/S 1.7 miles

Break-up- 16 May

Freeze-up- 1 Nov.

No buoys

Facilities: Repairs- Minor Fuel Yes Oil Yes
Hangars

Communication- Radio, Telephone, Teletype

Transportation- M.T.

Passenger
Facilities- At field

Lighting: Rotating beacon; boundary, contact and threshold lights; portable electric flare path; lighted wind tee

Radio- R.C.A.F. and Control Tower

Radio Range Call Sign VFCL W/T
Frequencies Recs. 3105,4495,5390,6210
Trans. 248

Meteorological
Facilities- Teletype reporting station

WHITEHORSE, Y.T. Altitude 2297' Landing Field
Seaplane Base

Position: 60° 43' N. 135° 05' W.

Runways: Nature- Asphalt Dimensions 6600' x 200') par-
Concrete 7200' x 150') allel
Gravel 2000' x 200'

Ownership- Dom. Government Operated by R.C.A.F.

Alighting Area: Lewes River NNW/SSE 2 miles

Break-up- 15 May

Freeze-up- 15 Sept.

No buoys Hoist, slipway and dock

Facilities: Repairs- Minor Fuel Yes Oil Yes
Hangars

Communication- Radio, Telephone, Telegraph,
Teletype

Transportation- M.T., Railway, Boat

Passenger Facilities- Hotels in town
Limited at field

Lighting- Rotating beacon, Bantow approach lights to one runway, boundary lights, contact lights, threshold lights, obstruction lights

Radio- Control Tower R.C.A.F.

Radio Range Call Sign VFCX W/T
Frequencies Recs. 2946,3105,4495,5037.5,
5390,6210
Trans. 302, 2946, 5037.5,5390

Meteorological Facilities- Central independent forecast station

SECTION 3

SERVICES RENDERED

The service rendered under the existing licences as at October 15, 1946 was as follows:

LICENCES NOS. 60 AND 69

In these licences, thirteen different points are named. Of these, three receive regular scheduled service; nine are served as flag stops; and one is served as an off-line point.

Schedule

Prince George - Fort St. James - Takla Landing, B. C.

Read down 31 Every 2nd Sat.				Read up 32 Every 2nd Sat.
AM @		Prince George		PM @
7:00	Lv.	Fort St. James	Ar.	3:00
8:30	Lv.	Pinchi Lake		
f		Manson Creek		
f		Germansen Lake		
f		Germansen Landing		
f		Takla Landing		
f		Uslika Lake		
f		Aiken Lake		
f		Bear Lake		
f		McConnell Creek		
f		Thutade Lake		
12:01 PM	Ar.	Two Brothers Lake	Lv	12:30 PM

Equipment: Single Engine Seaplanes and/or Skiplanes, Fairchild 71, 82 or Norseman.

f - Flag Stop

@ - Licensed Off Line Point

All of the points named in these Licences Nos. 60 and 69 receive service as set out in the above schedule.

LICENCE NO. 67

In this licence, ten different points are named. Of these, four receive regular scheduled service; three points are served under other licences from Edmonton; and three points are not served at all.

Schedule

Vancouver - Prince George - Fort St. John, B.C.

Read down 21 Daily Exc. Sun.				Read up 22 Daily Exc. Mon.
PM				AM
9:15 PT	Lv. Vancouver	Ar.		PT 8:30
f∅	Ar. Williams Lake	Ar.		f∅
11:20	Ar. Quesnel	Lv.		6:20
11:30	Lv. Quesnel	Ar.		6:00
12:01	Ar. Prince George	Lv.		5:30
12:10	Lv. Prince George	Ar.		5:00
1:35 PT	Ar. Fort St.John	Lv.		PT 3:45
AM				AM

Equipment: Twin Engine Lockheed Lodestar
f - Flag Stop
∅ - Subject to landing conditions
PT - Pacific Time

All of the points named in this Licence No. 67 receive service as set out in the above schedule, with the exception of Lower Post, Teslin, and Williams Lake. Lower Post and Teslin are not served at all due to lack of traffic and lack of suitable landing facilities. Williams Lake is not served due to lack of required radio range facilities.

LICENCE NO. 71

In this licence, nine different points are named. Of these, three points receive regular scheduled service; two points are served under other licences; and four points are not served at all.

Schedule

Fort St. John - Fort Nelson, B. C. -
Liard - Simpson, N. W. T.

Read down			Leaving Fort Nelson Dec. 15, 1945 - Mar. 16, July 20, Oct. 5, 1946 Returning Fort Nelson Dec. 16, 1945 - Mar. 17, July 21, Oct. 6, 1946		Read up
27					28
PM					PM
@			Fort St. John		@
@			Red Fern Lake		@
@			Blue Lake		@
@			Tuchodi Lake		@
1:00	PT	Lv.	Fort Nelson	Ar.	3:00
1:45		Ar.	Nelson Forks	Lv.	2:15
2:00		Lv.	Nelson Forks	Ar.	2:00
3:00		Ar.	Liard	Lv.	1:00
@			South Nahanni		@
@			Simpson		@
PM					PM

Equipment: Single Engine Seaplane and/or Skiplane
@ - Licensed Off Line Points

With the exception of Fort St. John, Red Fern Lake, Blue Lake, Tuchodi Lake, South Nahanni, and Simpson, the points named in this Licence No. 71 receive service as set out in the above schedule. Simpson and Fort St. John are served under other licences. Red Fern Lake, Blue Lake, Tuchodi Lake, and South Nahanni, due to lack of traffic, do not appear to be served at all.

LICENCE NO. 79

In this licence, five different points are named. Of these, four points receive regular scheduled service and one is served as a flag stop subject to landing conditions.

Schedule

Whitehorse - Dawson City, Y. T.

Read down 25 Tues. -Fri.				Read up 26 Tues. -Fri.
AM				PM
9:15 YT	Lv.	Whitehorse	Ar.	4:40 YT
fϕ	Ar.	Carmacks	Lv.	-
10:45 x	Ar.	Selkirk	Lv.	3:20 xx
11:40	Ar.	Mayo	Lv.	2:30
12:45	Ar.	Dawson City	Lv.	1:30
PM				PM

Equipment: Twin Engine Landplane, or Skiplane: Barkley Grow

f - Flag Stop

ϕ - Subject to landing conditions

YT - Yukon Time

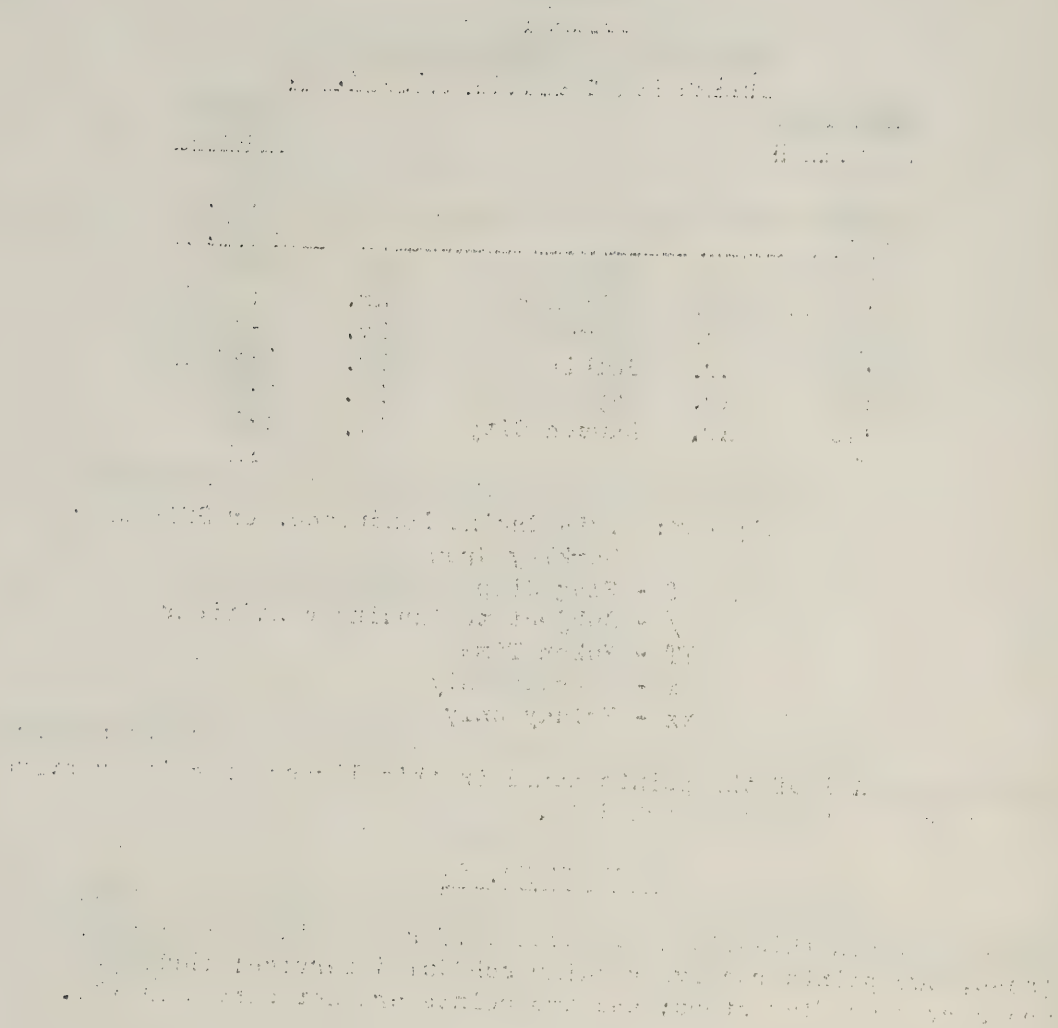
x - Tuesday only

xx - Friday only

All of the points named in this licence receive service as set out on the above schedule.

LICENCE NO. 84

In this licence, seven different points are named. Of these, two points receive regular scheduled service; three points are served as flag stops; and two points are not served at all.



Schedule

Prince George - Fort Ware, B.C.

Read down					Read up
		Leaving Prince George			
		July 13, Aug. 10, Sept. 14, Oct. 12, Dec. 23, 1946			
33		Returning Prince George			34
		July 14, Aug. 11, Sept. 15, Oct. 13, Dec. 24, 1946			
AM					PM
9:00	PT	Lv.	Prince George	Ar.	1:00 PT
f		Ar.	McLeod Lake	Ar.	f
f		Ar.	Finlay Forks	Ar.	f
f		Ar.	Fort Grahame	Ar.	f
1:00	PT	Ar.	Fort Ware	Ar.	9:00 PT
3:00	YT	Ar.	Watson Lake	Lv.	6:00 YT
MVS		Lv.	Watson Lake	Ar.	MVS
MVS		Ar.	Lower Post	Lv.	MVS
PM					AM

Equipment: Single Engine Seaplane and/or Skiplane:
Fairchild 71, 82, or Norseman

f - Flag Stop
MVS - Via Motor Vehicle Service
PT - Pacific Time
YT - Yukon Time

All of the points named in this Licence No. 84 receive service as set out in the above schedule with the exception of Watson Lake and Lower Post. Due to lack of traffic beyond, service under this licence appears to terminate at Fort Ware, and Watson Lake and Lower Post are not apparently served thereunder.

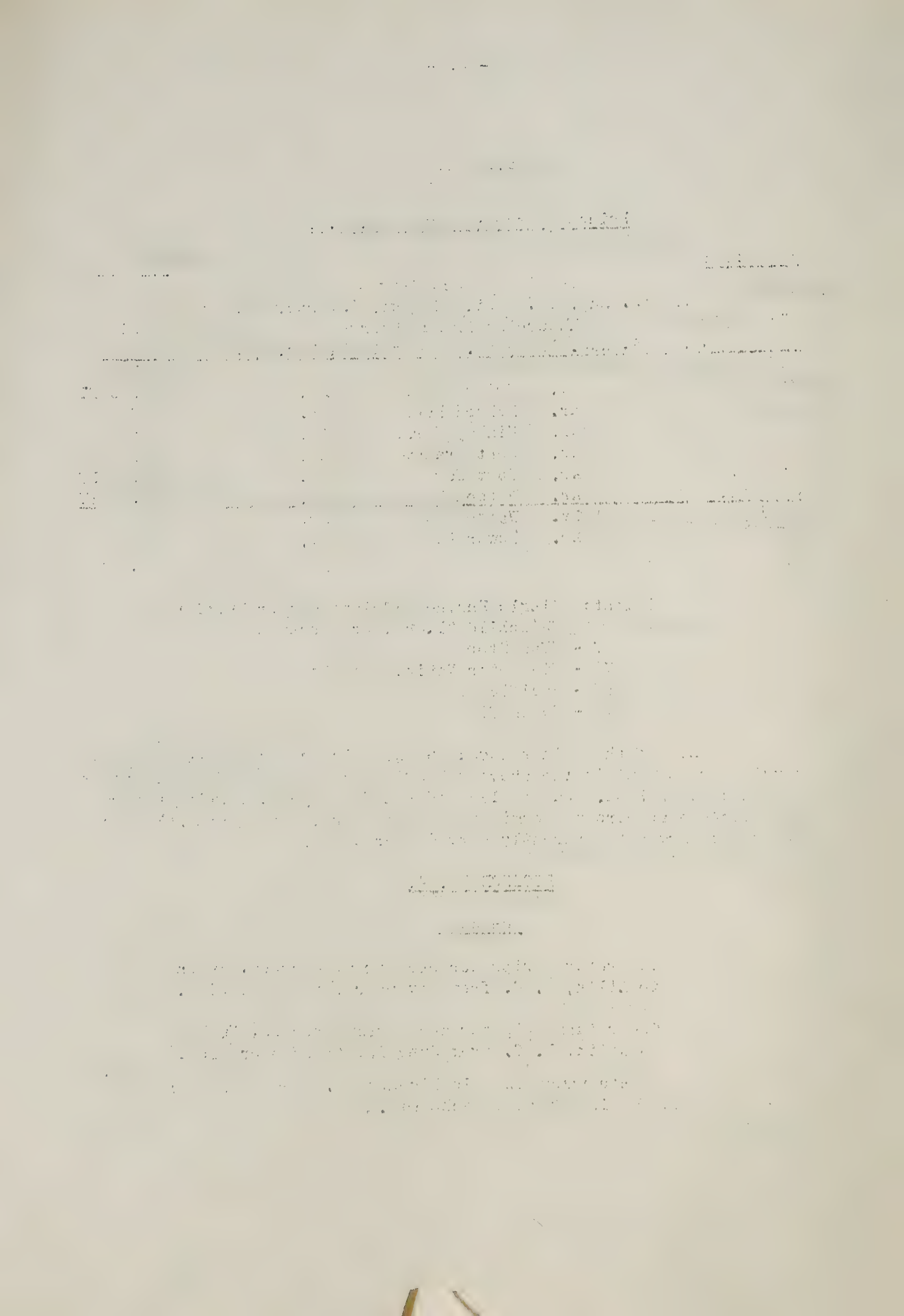
LICENCE NO. 41

Schedule

Two return trips per week from Carcross, Yukon to Atlin, B. C. from November 1st to May 31st.

One return trip per week from Carcross, Yukon to Atlin, B. C. from June 1st to October 31st.

The points named in this Licence No. 41 appear to receive service as set out in the above schedule.



LICENCE NO. 42

Schedule

Return trips bimonthly from Atlin, B.C. to Telegraph Creek, B.C. from November 15th to April 1st.

Return trips from Atlin, B.C. to Telegraph Creek, B.C. only when called upon to do so from April 2nd to November 14th.

The points named in this Licence No. 42 appear to receive service as set out in the above schedule.

SECTION 4

AIR SERVICES IN AREA OTHER THAN THOSE UNDER REVIEW

The following air carriers have applied for and have been granted a licence or a favourable decision by the Air Transport Board to operate -

(A) Schedule Commercial Air Service:

NIL

(B) Non-scheduled between Specific Points:

NIL

(C) Non-scheduled Charter from Designated Base:

Name of Air Carrier	Base	Decision	Licence No.
Central British Columbia Airways Ltd.	Fort St. James		26/46(C)
Central British Columbia Airways Ltd.	Prince George		37/46(C)
Kamloops Air Services Ltd.	Kamloops		43/46(C)
George Campbell Ford Dalziel	Telegraph Creek		77/46(C)
B.C. Interior Aviation	Penticton		98/46(C)
Peace River Northern Airlines Limited	Fort St. John		99/46(C)
Kootenay Air Services Ltd.	Trail	June 28/46	
Gouglas Dorey Tod	Dawson Creek	Nov. 22/46	
Cranbrook Flying Service Ltd.	Cranbrook	Nov. 22/46	

SECTION 5

SURFACE TRANSPORTATION FACILITIES

For the purpose of reviewing the various surface transportation facilities available in this area, this section of the report is divided into two parts:

(1) The British Columbia Mainland

(2) The Yukon District

Within these areas the various types of surface transportation facilities are summarized as follows:

(1) The British Columbia Mainland

(a) Water

The principal water services available to the people in this area are coastal services operated between Vancouver and Prince Rupert, a distance of 535 miles, providing transportation to intermediate communities along the coast and on Vancouver Island. Both the Canadian National and Canadian Pacific Steamship Companies operate between these points, the Canadian Pacific scheduling both tri-weekly and local weekly sailings, and the Canadian National weekly sailings.

The tri-weekly service of the Canadian Pacific Steamship Company comprises part of its Vancouver - Alaska service. The travel time is approximately 40 hours. The local weekly service operates northbound from Vancouver on Saturday arriving at Prince Rupert on Monday, and the southbound service leaves Monday evening arriving Vancouver on Thursday morning. The shortest elapsed time for this service is 50 hours; stops being made at Englewood, Alert Bay, Port McNeil and Port Hardy on Vancouver Island and Ocean Falls and Butedale on the Mainland.

The weekly service operated by the Canadian National Steamship Company leaves Vancouver Monday morning arriving at Prince Rupert on Wednesday morning; the return trip leaves Prince Rupert Thursday night arriving Vancouver Saturday afternoon. Enroute stops are made at Powell River and Ocean Falls on the Mainland. The elapsed time for this service is 37 hours.

(b) Rail

There is no direct rail service between Vancouver and Prince George. The only means of rail travel between these places is via the Canadian National tri-weekly service to Red Pass Junction and connecting with the twice daily transcontinental service via Red Pass Junction to Vancouver. The two services are not co-ordinated, and a wait of ten hours is necessary to make connections. The shortest elapsed travel time by this circuitous route, a distance of 701 miles, is 38 hours 15 minutes.

By a combination of rail and water services, it is possible to travel between Vancouver and Prince George. This consists of a water trip between Vancouver and Squamish, a distance of 40 miles, and rail service via the Pacific Great Eastern Railway from Squamish to Quesnel, a distance of 347 miles. This is a tri-weekly service with an elapsed time, Vancouver to Quesnel, of approximately 25 hours. Between Quesnel and Prince George there are highway transportation services which take an additional 8½ hours; thereby making a total travelling time of 33 hours for the through trip.

An alternative method of travel between Vancouver and Prince George is a combination of the Vancouver - Prince Rupert steamship service and the Prince Rupert - Prince George rail service. This is not a co-ordinated through service and a 45 hour wait at Prince Rupert is necessary to make rail connections. The total elapsed travelling time by this circuitous routing is 109 hours.

(c) Highway Service

The Western Canadian Greyhound Bus Lines operate a daily service between Vancouver and Prince George, via Quesnel, a distance of 476 miles and consuming approximately 24 hours travelling time. A comparison between this service and the services noted above indicates a time saving of approximately 9 hours over the combined rail-highway service, 14 hours over the all-rail service, and 85 hours over the combined rail-water service.

(d) Tractor Service

There are no tractor services in this area.

(2) The Yukon District

(a) Water

Water facilities available to the public within this district are so located that they serve only the western and north-western portions. The main water route includes scheduled coastal services operated between Vancouver and Skagway by the Canadian Pacific Steamship Company and service between Vancouver and Ketchikan operated by the Canadian National Steamship Company. This latter operation connects with the non-scheduled service of the Alaska Steamship Company between Ketchikan and Skagway. These services are operated an average of 16 times per month during the summer season and 6 times per month during the winter season and provide 5-day service between Vancouver and Skagway.

The Yukon River is the principal water route within the Yukon district. As the minor gradient of the Yukon plateau has resulted in the formation of a large system of branch waterways, sizeable river steamers may navigate without difficulty from Whitehorse to the Bering Sea. Within the territory itself smaller steamers have navigated over 1,400 miles of this river system and an even greater mileage is navigable by suitable power-driven boats.

What may be termed the interior water service is a scheduled passenger and freight operation by the British Yukon Navigation Company between Whitehorse and Dawson City via Carmacks and Selkirk, with a branch service via the Stewart River to Mayo Landing. This is a twice weekly service during the season of navigation, usually from the middle of May to the middle of September. It provides 3-day delivery from Whitehorse to Dawson City and 5-day delivery from Dawson City to Whitehorse. Eight steamers and gas boats are operated in this service, two of which have accommodation for 40 passengers and 125 tons of freight, and one for 25 passengers and 325 tons of freight.

Steamers connecting with the main Yukon River route operate on the Stewart River and provide a summer service to Mayo. There is no regular schedule, the service being provided at least once a week to meet the requirements of freight traffic. Transit time between Whitehorse and Mayo averages 6 to 8 days per round trip.

Irregular steamer service is provided from Dawson to points along the Yukon River including Eagle, Fort Yukon and Tanana, Alaska, making connections with the Alaska railway at Nenana from which point rail service is available to Fairbanks, Anchorage and Seward, Alaska.

In addition to the services noted above, a summer service is operated between Atlin, B.C., and Carcross, Y.T., via Atlin and Tagish Lakes.

(b) Rail

Rail transportation in the Yukon district consists of a short line service between Skagway and Whitehorse operated by the White Pass and Yukon Railway Company. It is a mixed freight and passenger service operated daily, except Sunday, during the summer season, and in relation with Canadian Pacific Steamship services during the winter season. This service brings Whitehorse within 7 hours of Skagway and provides an over-all 7-day delivery service from Vancouver. Rates charged on this service are the mountain differential with a winter seasonal increase going into effect about the 15th of August.

(c) Highway

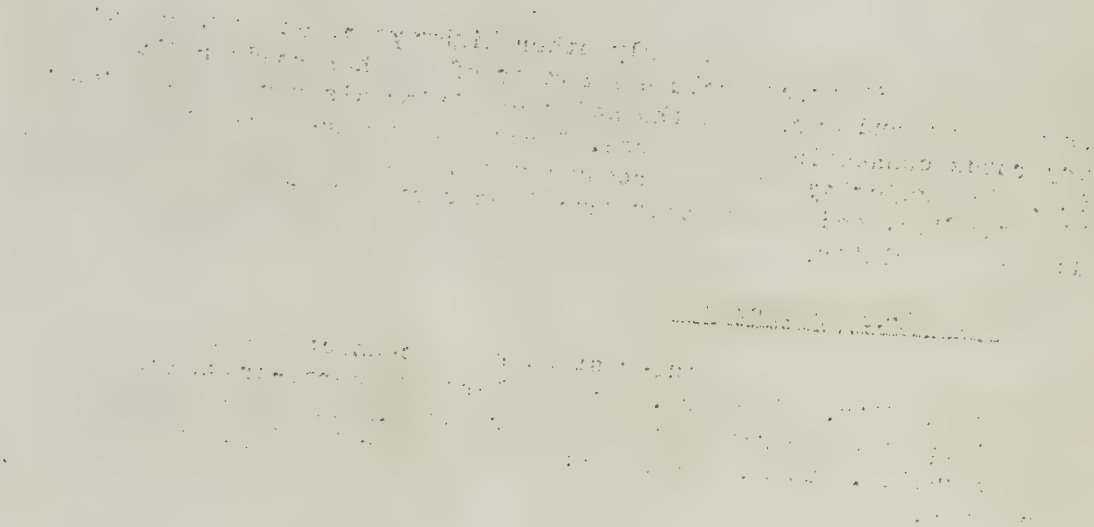
The construction of the 1,523 mile long Alaska Highway during the war provides direct connections for the Yukon with Edmonton and Fairbanks. It also links Whitehorse, Burwash Landing, Champagne, Teslin and Watson Lake. In conjunction with this main highway a road was also built from Haynes, Alaska, to connect with the highway 95 miles west of Whitehorse; a second road joins Carcross to the highway; and a third connection from Norman Wells joins the highway 80 miles east of Whitehorse to serve the Canol pipe line.

Seasonal commercial service, May to September, over the Whitehorse - Dawson Creek portion of the Alaska highway for both freight and passenger transportation is now in operation. It provides a connecting service with the railroad at Dawson Creek and with the main highway to Edmonton. The passenger service is operated 3 times per week and requires 3 days' travelling time. The freight service is of an irregular nature, depending largely upon traffic requirements. As of the present time, the amount of freight movement to Whitehorse over this highway is comparatively small, due principally to the somewhat higher joint rail-highway rate from Edmonton as compared with the joint rail-water rate from Vancouver.

The only other highways of any consequence in the Yukon district include a number of weather roads radiating from Dawson and Mayo into the adjacent mining districts and secondary roads connecting Whitehorse, Carcross, Carmacks and Yukon Crossing. The majority of these roads are suitable for truck and automobile traffic, and the heavily travelled sections are kept open during the winter.

(d) Tractor Services

Winter stage roads connect Whitehorse, Mayo and Dawson City. Tractors, caterpillars and horse-drawn stages were frequently operated over these roads during the closed season of navigation, but have now been almost entirely displaced by the aeroplane.



SECTION 6

ECONOMIC CHARACTERISTICS

(1) GENERAL REVIEW OF THE AREA

For the purpose of evaluating the economic characteristics of the British Columbia Mainland and Yukon area, this section of the report is divided into two parts:

1. The British Columbia Mainland
2. The Yukon District

1. The British Columbia Mainland

Vancouver

Vancouver, located on Burrard Inlet north of the Canada - United States boundary, is Canada's leading Pacific Coast city and is the principal financial, industrial, trade, and transportation centre of British Columbia.

The city has one of the finest harbours in the world, having an area of 48.8 sq. miles, a depth at low tide of from 30 to 120 feet, and is completely landlocked. Wharves with a length of over 31,000 feet providing berthage for approximately 50 deep sea ships at one time, specialized lumber, grain, oil and sugar docks, a freight shed area of 1,295,000 sq. ft., and freight storage capacity of 159,000 tons, supply all the facilities required for the substantial water borne export and import trade of the city. False Creek in the heart of the city provides accommodation for coastwise shipping at its many small individual wharves. The Fraser River, at the mouth of which Vancouver stands, provides many additional miles of good water frontage with all the advantages of a freshwater harbour. Passenger and cargo ships sail regularly in ocean service between Vancouver and Honolulu, China, India, Europe, Straits Settlements, South America, South Africa, Australia and New Zealand. Coastal steamers provide services to California, Seattle, Victoria, the Islands in the Gulf of Georgia, and to coastal British Columbia and Alaska. In addition, Vancouver is a port of call for a large number of tramp cargo boats.

Port statistics for the period 1943-45 show the value of imports and exports as:

	1943	1944	1945
Imports...	$ 91,000,000	$ 95,850,000	$ 79,000,000
Exports...	143,000,000	183,550,000	139,600,000

The city is the western terminus of the Canadian Pacific, Canadian National, Pacific Great Eastern and Great Northern railways, and also of the British Columbia Electric railway serving the nearby Fraser Valley communities.

Transcontinental and southern connections by bus from the city are provided by Central Canadian Greyhound, Pacific Stage Lines and British Columbia Greyhound Lines, in addition to the many local and inter-urban services.

Air Services reach in all directions from the city which has a modern airport and seaplane facilities. The trans-continental service to eastern points is provided by Trans-Canada Air Lines. Service between Vancouver and Seattle links the city with the air routes of the United States. Canadian Pacific Air Lines connect Vancouver with Vancouver Island points and also provides service to interior and northern British Columbia, the Yukon, and Alaska. Local charter operations furnish transportation to other coastal and interior points as traffic warrants.

In 1941 the population of the city proper was 275,353, at which time there were 351,487 people residing in Greater Vancouver. The population within a 25-mile radius was 306,234 in the same year.

Statistics of retail and wholesale sales are indicative of the importance of the city as a supply centre, 1941 figures being:

	No. Stores	No. Employees	Sales
Retail stores....	4,351	13,421	$ 145,000,000
Wholesale Stores.	1,085	8,222	304,000,000

Vancouver has been growing steadily in the past generation. Its population increased 12% between 1931 and 1941; and retail sales increased 18% during the same period.

There are a large number of manufacturing plants producing a wide diversity of products in the city. A summary showing a breakdown of establishments by classes and value of product (1944) follows:-

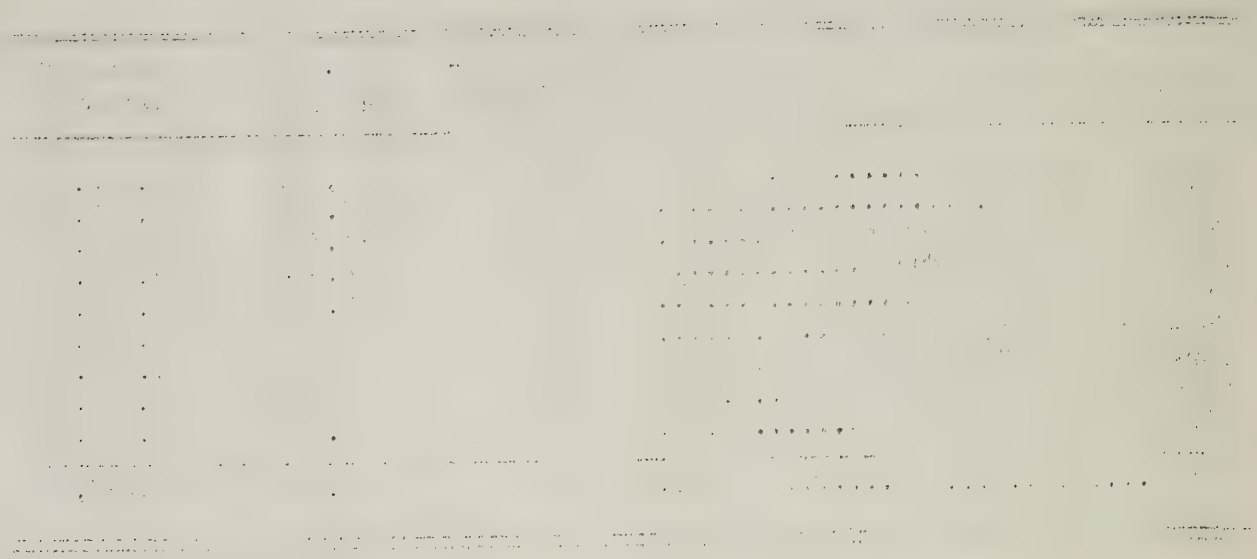
Class of Product	No. of Establishments	No. of Employees	Value of Product
Vegetable Products.....	206	3,451	$ 48,225,000
Animal Products.....	70	2,900	37,750,000
Textiles and Textile Products.....	51	1,383	7,465,000
Wood and Paper Products.....	286	8,843	48,175,000
Iron and Its Products.....	168	22,575	120,585,000
Non-ferous Metal Products.....	36	840	4,825,000
Non-metallic Mineral Products.....	32	648	11,035,000
Chemical and Allied Products.....	40	460	4,765,000
Miscellaneous Industries.....	44	1,373	6,560,000
Total.....	933	43,473	289,385,000

The number of gainfully employed persons distributed by types of employment gives a clear indication of the relative importance of the various economic activities of the city for the year 1941:

Type of Employment	No.	% of Total
Agriculture Processing	3,067	2.07
Forestry, Fishing, etc.	5,182	3.49
Mining, etc.	1,746	1.18
Manufacturing	38,922	26.22
Construction	11,086	7.47
Transportation	15,716	10.59
Trade	28,201	19.00
Finance	6,050	4.08
Services	35,742	24.08
Unspecified	2,749	1.82
All Industries.....	148,461	100.00

Williams Lake

This town lies near the western end of Williams Lake a distance of 205 miles northeast of Vancouver. The rail journey from Squamish near Vancouver is considerably longer, being a little over 276 miles. The town is chiefly a supply centre for the ranches in the area, the annual manufacturing output of its two manufacturing establishments, a sawmill and a bakery, amounting to less than $50,000. The substantial number of people employed in the retail trade, approximately 78, out of a total population of 540, is a good indication of its function as a supply centre. Total sales of the 27 stores approximate $490,000.



Quesnel

Quesnel, the northern terminus of the Pacific Great Eastern Railway, is situated at the junction of the Quesnel and Fraser Rivers some 60 miles north of Williams Lake. This is a larger town than the latter, having a population of 653, and its greater importance is reflected in its manufacturing and trade activities. The seven plants - 5 sawmills, 1 printing and publishing, 1 butter and cheese - are all small, their total annual production being slightly in excess of $74,000. That Quesnel is also a supply centre for ranchers, farmers, and prospectors is shown by the number of retail and wholesale establishments, there being 37 concerns employing 56 persons and having a gross sales value in 1945 of approximately $815,000.

Highways extend eastward from Quesnel into the Cariboo gold areas to such points as Wells 50 miles east, and southeast along the Quesnel River to the Lowee hydraulic pit, the largest British Columbia placer gold operation. After 85 years of continuous mining the Cariboo is still British Columbia's centre of greatest placer production. Snipers do occasional work along the Fraser both near and between Williams Lake and Quesnel.

Prince George

With a population of 2,027 in 1941, Prince George, located at the confluence of the Nechako and the Fraser near the Fraser's "great bend" is the largest city in north central British Columbia. For statistical purposes the Provincial Government cites the Prince George area as extending approximately 80 miles north to beyond McLeod Lake, 30 miles south to Woodpecker, 45 miles west to Hulatt, and 20 miles east to Giscombe, these latter two points being, like Prince George, on the Canadian National Railway Prince Rupert - Edmonton line. In this area, with by far the heaviest concentration of activity in Prince George, there is a total of 38 manufacturing plants consisting of 32 sawmills, a cheese factory, 2 bakeries, a publishing plant and a furniture plant. Total production in 1945 exceeded $1,700,000 with an annual payroll of $570,000 for the 380 employees. The large proportion of sawmills is indicative of the emphasis upon lumbering in the area. In the city itself there are 61 retail stores employing 97 persons with a gross sales value of over $1,500,000 per year. There is only one wholesale establishment.

Tungsten deposits have been located and explored at the Ada and Silver properties some 40 miles east of Prince George but at the present time there are no producing mines in the area.

Prince George is the centre of a farming and ranching district centred along the Canadian National Railway. Recent cattle and swine production for the area has been:

Cattle	1944 -	2,475 head
	1945 -	2,004 head
Swine	1945 -	1,250 head

Field crop figures for 1945 include:

Wheat	-	32,000 bushels
Oats	-	110,000 bushels
Barley	-	12,000 bushels
Mixed Grains	-	5,000 bushels
Seed peas	-	500 lbs.
Clover seed	-	10,000 lbs.
Pure alsike	-	150,000 lbs.
Alsike-Timothy	-	200,000 lbs.

Fort St. James and the Omineca Area

Fort St. James is the principal point in the Omineca area. This geographical area extends northward from Fort St. James and westward from the Finlay and Parsnip Rivers and includes the lower portion of the Cassiar - Omineca Mountain range. These mountains constitute the third largest mountain system in the province.

Many of the towns within the general area including Bear Lake, McConnell Creek, Aiken Lake, Thutade Lake, Two Brothers Lake, and Uslika Lake have been prospecting and mining points, but as of the present time are completely closed and the people have moved away.

Placer creeks in the area north of the Omineca River include Jimmay, McLaren, and McConnell Creeks. Several thousand dollars worth of gold has been taken from McLaren Creek. Gold was found at the junction of McConnell Creek and Ingenika River in 1899. In 1908 and again in 1932 there were small "rushes" into McConnell Creek but production has been small.

South of the Omineca, gold was found at Vital Creek in 1869, on Germansen Creek in 1840, and Manson Creek in 1871. It has been estimated that since that time the value of placer gold produced from these and others in the same area has exceeded $1,500,000. The deposits are of a variety of origins and consequently, the operations have included shallow diggings, damning of streams, drift mining, dragline shovel, steam shovel, and hydraulic operations.

Mineralization has been found at various places in the Omineca area. No lode gold mines have been developed and even the number of mineral occurrences is small in comparison to the size of the area.

Claims near Uslika and Aiken Lakes have been staked in veins carrying values in gold, copper, silver, lead and zinc. Of eight properties held by the Consolidated Mining and Smelting Co., the Croyden at Aiken Lake has had the most exploratory work.

Farther north a number of lead-zinc deposits are reported around the Ingenika Mine on the lower part of Ingenika River. Gold-bearing quartz veins are reported in the neighborhood of Thutade Lake and the head of the Finlay River.

Although mining interest has been centred on gold in the last few years, World War II led to the development of some of the so-called strategic metals in British Columbia. In 1940 mercury was produced in quantity from a deposit at Pinchi Lake some 16 miles northwest of Fort St. James. This property, which was operated by Consolidated Mining and Smelting Co., is now closed down as a result of the reduction in demand for mercury at the termination of the war.

Even in the southern part of the region there are few farms, due largely to lack of convenient access to the scattered areas, suitable for agriculture. One such area, probably the most convenient to ground transportation, extends along the east side of Stuart Lake.

The southern portion has a light to medium cover of poplar and jack-pine, Jack-pine mine-props are being cut in considerable quantity for shipment to Great Britain and there is a heavy demand for railway ties so that lumbering, though not a large-scale industry, is probably more active than ever before. A considerable portion of the logging is done by Indians on the suitable areas adjacent to the lake-shores. The logs are towed in small booms to the local mills.

Furs, the only other resource of the region, have been a source of relative importance for many years. Among the more valuable fur-bearing animals trapped are beaver, marten, mink, fox, lynx, wolverine, and muskrat.

There are few permanent white residents north of Fort St. James and these generally live in the vicinity of the trading posts. Some idea of the small population and limited economic activity of the area can be obtained from the following table, which shows the population and the number of retail outlets:

	Population	Retail Trade No. of Stores
Fort St. James	208	12
Pinchi Lake	119 (district)	7
Manson Creek	5	3
Takla Landing	58 (district)	2
Germansen Landing	58 (district)	1

There are only two wholesale establishments reported in this area and they are at Fort St. James.

Rocky Mountain Trench Area

The Rocky Mountain Trench, formed by the Cassiar - Omineca mountains on the west and the Rockies on the east, extends from Lower Post near the British Columbia - Yukon border to Montana. The communities of Lower Post on the Liard River, such as Fort Ware, Fort Grahame, Finlay Forks

and McLeod Lake are all situated within the Trench area. They are all small settlements which form operating bases from which trappers, chiefly Indians, and others engaged in the fur trade operate. A summary of the populations and trade census of these communities provides a clear indication of their small size and of the very limited nature of their economic activities.

	Population 1941	Retail Trade No. of Stores	Wholesale Trade No. of Stores
Lower Post	20	Nil	Nil
Fort Ware	31	Nil	Nil
Fort Grahame	6	Nil	Nil
Finlay Forks	28	1	Nil
McLeod Lake (Fort McLeod)	13	2	Nil

In the Trench Area, and generally over northeastern British Columbia moose, caribou, bear, both black and grizzly, goats, wolves, and coyotes are found. Indian trappers reported to provincial survey parties this past summer (1946) catches of red, silver, and black foxes, mink, marten, lynx, otter, wolverine, muskrat, beaver, weasel, squirrels, and of course, wolves and coyotes.

Rocky Mountain Area

The localities of Red Fern Lake, Blue Lake and Tuchodi are no longer populated places. They were, at one time, prospecting centres from which the mineral resources of this area were explored.

There is little evidence of mineral ores in the area. Copper mineralization is reported to have been found near the mouth of Gataga River and on Toad River 15 to 20 miles south of Muncho Lake, and in the area of Red Fern Lake. Unlike the areas west of the Trench, placer gold mining is unknown in this district.

Lodgepole pine and white spruce are found in the area but are not used commercially. Occasional prospectors and a small number of Indians engaged in trapping are the only inhabitants of this mountainous region.

North-Eastern Plain

The north-eastern corner of the Province, east of the Rocky Mountains, lies within the Great Plains region. In this northern portion there is little activity except fur-trapping by semi-nomadic Indians.

With a population of 73, and retail sales of $89,000 at its two stores, Fort Nelson on the Alaska Highway, is the largest centre in the northern portion of the plains area. It is the fur trading centre of the district.

The southern portion of the plains area is much more populous and of far greater economic importance. This section is well known as a grain growing, coal mining, and ranching section. Field crop production in 1945 included:

Spring wheat	-	554,000 bushels
Winter wheat	-	5,200 bushels
Oats	-	616,000 bushels
Barley	-	84,000 bushels
Flax	-	10,000 bushels
Rye	-	200 bushels
Alfalfa	-	126,000 lbs.
Altiswede Clover	-	86,000 lbs.

Livestock shipments for 1945 from this area to the Edmonton market had a value of $573,000, being composed of hogs (18,738), beef cattle (2,114) and sheep (1,002).

The 1945 coal output from the four producing mines totalled 7,381 tons, the production being distributed as follows:

Mine	Tons
Packwood Mine (Hudson Hope)	831
Gething Mine (Hudson Hope)	810
Hasler Creek Mine (Pine River)	3,156
Peace River Mine (Hudson Hope)	2,584
Total	7,381

Fort St. John

Fort St. John, 50 miles northwest of Dawson Creek via the Alaska Highway, is the centre of an extensive farming area which radiates 35 to 40 miles in all directions. Approximately 85,000 acres are now under cultivation and this farm acreage is rapidly expanding year by year.

The population of the town itself is only 170, there being approximately 980 people in the town and its immediate area, and about 2,600 in the district.

Manufactured products of the six small plants in the district have an annual value of nearly $63,000. In the town itself there are two plants; a flour and feed mill and a sawmill.

The 16 small retail stores provide employment for about 20 people, and had total sales of over $126,000 in 1941.

The gross value of town business in 1946 will, it is estimated, approach $880,000.

Dawson Creek

Dawson Creek, 495 miles from Edmonton, is the northern terminus of the Northern Alberta Railways. Because of its railhead location it is the chief supply centre and shipping point for the southern portion of the plains area. It is the centre of a grain-growing and mixed farming area.

Though not a large town, it is considerably larger than Fort St. John, having a town population of 518, with approximately 4,820 additional residents in the surrounding district.

The 3 manufacturing plants in the town limits consist of a bakery, a sawmill and a printing and publishing firm, with a total annual production in 1944 of approximately $58,000.

Retail sales of the 3 local stores amounted to about $240,000 in 1941.

Northwestern Area

Atlin

Atlin is a gold mining town located on the eastern shore of Atlin Lake, It is 60 miles east of Skagway and 60 miles southeast of Carcross. In 1941 the town had a population of 256 people with approximately an additional 350 residing in the surrounding district. The chief activity of Atlin is associated with the nearby gold operations for which it acts as a supply and distributing centre. There are 21 retail stores, having 49 employees. Gross retail sales in 1941 approximated $340,000. There are no wholesale establishments.

Gold mining in the Atlin district consists almost entirely of placer mining, the only lode mines now in production being the Engineer Mine and the Taku River Gold Mine. The total production of these mines has been very small.

The most important placer operations are those of the Columbia Development Company about 25 miles east of Atlin. Other operators are doing development work and obtaining some production in this same district.

The total mineral production of the Atlin district in recent years is reported as being:

1941	-	$1,449,341
1942	-	1,401,357
1943	-	314,005
1944	-	255,539
1945	-	321,227

The drop in production after 1942 was the result of labour shortages occasioned by the war.

Telegraph Creek

Telegraph Creek is a small fur-trading and supply centre. Surveyors, prospectors and miners use the town as a base for trips into the surrounding district particularly the Dease Lake and Wheaton Creek placer mining areas to the northeast. A motor road to Dease Lake was used extensively during the war for transporting supplies which were then taken by river into northern British Columbia and southern Yukon points for the construction of airports and roads.

In 1941 there were 168 people in the community and surrounding district. Nine retail stores reported in the same year a gross sales value of $62,200. The very limited nature of present mineral production is indicated by the following figures which cover the whole Stikine district all of which is placer mining:

1943	-	$2,311
1944	-	1,520
1945	-	348

2. The Yukon Territory

The Yukon Territory forms the extreme northwest portion of the mainland of Canada. It covers an area of approximately 207,000 square miles or about 6% of the total area of the Dominion. The main feature of the Territory is a large basin-like area called the Yukon Plateau which is drained by the Yukon River and surrounded on the northeast and southwest by mountains. There are similar but smaller basin-like areas drained by the Porcupine, Peel, and Liard rivers.

The Yukon Plateau which covers the sections of principal interest in this report contains the best known and most highly developed portions of the Territory. It is an area of rolling uplands whose summits show marked uniformity of elevation although at many points it is interrupted by isolated mountains and mountain ranges. These mountains have few peaks more than 7,000 ft. in elevation. A network of valleys is deeply trenched from 1,000 to 2,000 ft. below the upland surface. Several great valleys extend northwestward across the Plateau, the greatest of which extends from the Liard River to Dawson and contains the Yukon, Klondike, Stewart, Pelly and Liard Rivers.

The 1941 Census reported a total population of 4,914 people in the Territory. This number has increased somewhat during the past few years and a recent estimate places the number at close to 7,000 distributed as follows:-

1946 (Estimated)

Yukon Territory	Total	White	Indian
Carmacks	154	44	110
Champagne, Whitehorse & Carcross Areas	577	171	403
Fort Selkirk & District, White & MacMillan Areas	280	68	212
Granville, Bonanza Basin and Eldorado Areas	828	808	15
Klondike Valley, Glacier Creek & Forty Mile Areas	118	89	27
Mayo and Keno Areas	78	72	6
Old Crow Area	182	15	167
Teslin Lake and Ross River Areas	367	24	343
Yukon and Stewart River Areas	72	72	-
Dawson City	688	673	15
Whitehorse Town	3,680	3,440	240
Total - Yukon Territory	6,992	5,330	1,662

Although gold had been reported as early as 1850, prospecting only began in the Yukon Territory in 1872 when gold was discovered in the main rivers. In the early 90's, prospecting spread to the side streams where the first coarse gold was found. However, it was not until the Klondike placer creeks were discovered in 1896 that substantial developments were undertaken. It was during this period that all the placer creeks were discovered together with the deposits of the Whitehorse copper belt, the Mayo silver-lead district and the Carmacks coal basin. In addition antimony, tungsten, zinc, arsenic, manganese and iron were found in the lode deposits and tungsten, mercury, tin and platinum were found in the placer deposits.

With the amalgamation of various interests and the introduction of dredging equipment, the production of placer gold reached a high in 1913 of $5,846,780, an amount that has not been exceeded since that time. Gradual exhaustion of the richer hydraulic and dredging areas lowered production to $1,243,287 in 1923 and from then until 1932 annual production was valued at less than $1,000,000. The increase in the price of gold during the 30's and the adoption of an extensive development program in 1932 by the Yukon Consolidated Gold Corporation which had acquired practically all the reserves in the Klondike district led to increased production. By 1939 the value of the annual output had increased to over $3,000,000 where it remained until 1942. During 1943 and 1944 labour shortages restricted production to $1,584,600 and $917,000 respectively. Partial relief of the labour shortages led to an increase in production to $1,200,000 in 1945.

Records are not available on the output of the gold from the various placer districts. The Sixty Mile camp which includes Miller Glacier and other creeks west of Dawson has been worked continuously for over 50 years.

In the Mayo district, Highet and Haggart Creeks have yielded gold to the value of hundreds of thousands of dollars each and several smaller creeks have been worked since 1897.

South of the Klondike district Henderson, Black Hill, Mariposa, Scroggie, Barker, Thistle, Kirkman and Canadian Creeks have been worked intermittently for many years.

In the south Yukon there are a number of creeks which, although rich in the past, have been inactive for a considerable time. These include Ruby, Bolder and Squaw Creeks in the Kulane district.

At the present time the largest placer operator is the Yukon Consolidated Gold Corporation which is active in the Dawson area. The company expected to have at least 5 dredges operating by 1947 and to devote considerable effort to new undertakings expecting to employ approximately 600 men in stripping, thawing operations alone.

In the Whitehorse district, Shorty, Edam, Iron, Bates and Burwash Creeks have been the principal centres of activity. The only recent placer gold production in the Mayo district has been on Dublin Gulch.

Interest in placer mining is indicated by the amount of land held under placer and prospecting grants. The total number of placer grants issued in the Territory in 1945 was 3,058 of which 2,832 were in the Dawson district, 108 in the Mayo district and 118 in the Whitehorse district. Of the total grants, 221 were for new locations. By 1946 a total of 620 miles of land along the creeks and rivers was held under prospecting grants of which 427 miles were in the Dawson district, thrity three miles in the Mayo district, and 118 miles in the Whitehorse district.

The relative importance of the Yukon placer districts is indicated by the 1945 gold production reports:-

Dawson District	38,565 ounces
Whitehorse District	616 ounces
Mayo District	244 ounces

Lode mining in the Yukon Territory has not yet attained the importance of placer mining. The majority of production has been in the Whitehorse and Mayo areas.

The Whitehorse copper belt came into production in 1900. From 1900 to 1912 production was intermittent increasing steadily until in 1916, 2,807,097 lbs. of copper worth $763,586 were produced. With the lowering of the price of copper the camp was closed in 1920 although considerable ore is said to remain.

The Mayo silver-lead operations were commenced in 1913 and with the exception of the years 1919 and 1920 some ore has been shipped each year. The veins are rich in silver and substantial tonnages of ore containing 200 to 300 ounces of silver to the ton have been mined. The Silver King property on Galena Hill and the mines at Keno Hill have been the large producers. Following the decline in the price of silver in the early 30's

the Keno Hill mill was closed down and was moved to Galena Hill for the treatment of ore from the Silver King, Elsa and Calumet Mines. The mill was closed entirely in 1941. The only production from lode mining in 1945 was approximately 100 tons of ore shipped by individual miners from the Mayo district. Some development work was carried on during the winter of 1945-46 at the Silver King claim and a deposit of rich silver-lead ore was discovered. The Keno Hill Mining Co. was incorporated in 1945 to acquire and work holdings within this area.

Some lode gold has been mined in the Klondike area east of Dawson and in the Carmacks district. In the Klondike district some properties have been worked, the most important one being the Lone Star mine. In the Carmacks district lode gold was found on Freegold mountain in 1930 and several other discoveries have since been made. Gold has been mined from 2 properties the most important of which, the Leforma Mine, produced approximately 1,150 ounces of gold in 1939. During the war years this mine closed down.

Interest in prospecting and mineral claims was fairly active during 1945. Two hundred and forty three grants for new locations were made in addition to 533 claims and 5 crown leases reviewed. Many locations were also made in the Freegold area and the Mayo district. Work is also being carried on by the Yukon Consolidated Gold Corporation southeast of Dawson and by the Hudson Bay Mining and Exploration Co. in the southern Yukon district.

Summarizing the above detailed description of mining activities, it may be concluded that to date the major production of minerals in the Yukon Territory has come from a few deposits. No area has been thoroughly prospected and little drilling has been done except for placers. Prospecting has been handicapped by the remoteness of the Territory and the severity of the climate. Experts consider that much of the geology of the area is favourable for the occurrence of minerals and contend that the variety and wide-spread distribution of the placer and lode prospects suggest the possibility of further expansion in mineral development.

The value of mineral production in the Yukon district is indicated by the following table:-

	1942	1943	1944	1945	Total to end of 1945
	$	$	$	$	$
Gold.....	3,204,971	1,584,660	916,993	1,221,258	212,148,844
Silver....	203,296	23,690	13,788	11,824	20,994,934
Lead.....	44,448	7,347	4,758	5,976	4,386,084
Copper....	-	-	-	-	2,711,695
Coal.....	-	-	-	-	803,192
Tungsten..	840	10,122	3,780	-	18,315
Antimony..	13	-	-	-	173
Total.....	3,453,568	1,625,818	939,319	1,239,058	241,063,237

Although agriculture is not classed as a primary industry of the Yukon since it is only carried on to meet local requirements, a few crops are grown with considerable success. The amount of farming products which can profitably be disposed of is determined by the volume of mining operations. It is difficult to estimate the amount of arable land which is available for agricultural development. Experts believe, however, that there are probably half a million acres capable of cultivation, one half of which might also be classified as forest land. The largest single agriculture section comprises about 100,000 acres in the Takhini-Dezdeash Valleys west of Whitehorse. In addition, there may be as much as 60,000 acres along the Yukon River flats. As would be expected, farms in the Yukon Territory are not large. Of the 26 farms totalling 2,781 acres listed in 1941 only 2 are larger than 300 acres, one-third of the total having holdings of less than 50 acres each. The distribution of farm acreage according to crops grown, is listed in the following table:-

	1931	1941
	acres	acres
Cultivated Area.....	778	511
Oats.....	63	27
Wheat.....	8	0
Cereals for hay.....	72	44
Cultivated hay.....	558	392
Other forage crops...	3	0
Potatoes.....	69	47
Field roots.....	5	1

Forests of the Yukon are characterized by a combination of a small number of species and a relatively slow rate of growth. Although the Territory south of 65° North may be classed as forest land the combined effect of altitude and latitude limits the growth to stands of little or of no commercial value. Consequently conditions within practically the entire territory are such that timber cannot grow to merchantable size except in isolated places.

Recent surveys indicate that a fair supply of merchantable timber may be found in the section south of Whitehorse and also in the western portion. It is probable that the rate of growth in these areas is such that they can supply all local needs together with a surplus for export to the other sections of the Yukon.

For some years sawmills at Dawson and other Yukon River points supplied the construction and mining needs of the Territory. These mills practically exhausted the supply of suitable timber close to the Yukon River and since 1930 most of the requirements of Dawson and Whitehorse have been supplied from British Columbia. There are, however, some sawmills still in operation. Two sawmills situated at Mayo produce about 100,000 f.b.m. per year.

The amount of timber cut in the Yukon Territory during the years 1934 to 1944 is shown by the following table:

Year	F.B.M.	Cords
1934-35	67,000	9,739
1935-36	185,000	11,946
1936-37	483,760	16,401
1937-38	400,000	19,677
1938-39	671,576	17,888
1939-40	351,157	15,387
1940-41	306,000	19,531
1941-42	300,000	12,847
1942-43	1,305,000	13,658
1943-44	1,408,657	20,403

The increases shown since 1942 are the result of wartime requirements and estimates for 1945 indicate a return to the pre-war level of production.

The fur trade occupies a relatively important place in the economy of the Yukon, providing a livelihood for a portion of the population. The following table shows the value of pelts of fur-bearing animals produced in the Yukon in 1943 and 1944:

	1943	1944
No. of Pelts	52,897	78,005
Value	$338,035	$467,188

The value of pelts produced on fur farms is reported in the following table:

	1941	1942	1943
No. of Farms	10	6	5
Value of Land and Buildings	$12,100	$9,650	$18,975
Value of Fur-bearing Animals	$ 5,757	$2,355	$ 4,240

Commercial fishing is relatively unimportant in the economy of the Yukon; in 1944 the value of fish products was reported at $3,131.

The balance of this general review of the Yukon Territory relates to the description of each of the most important localities on which economic data is available.

Dawson

Dawson is situated at the junction of the Yukon and Klondike Rivers. It is the administrative centre of the Yukon and is a supply centre and distributing point for the Klondike gold fields. In 1941 it had a population of 1,043 people, which is higher than in 1946 by about 350 people.

The town has 34 retail stores having 63 employees. In 1944 the gross value of retail business amounted to $1,225,000. There are in addition 3 manufacturing plants, a sawmill and a publishing concern having an annual gross production of approximately $25,000. In addition to the Dominion Government administrative offices, Dawson contains a police station, banks, telegraph and radio stations, schools, churches and a modern hospital. There are 6 hotels catering principally to the summer tourist traffic.

Mayo

This town, sometimes called Mayo Landing, is situated on the Stewart River. It has a mining recorder's office, a police detachment, a school, churches, and radio facilities. It is the commercial headquarters of the Mayo mining district and roads extend to the silver mines on Galena and Keno hills and to the placer gold mines at Highet, Haggart, and Dublin Creeks.

The eight retail stores had a gross sales value of approximately $180,000 in 1941.

Selkirk

Selkirk is an Indian village and trading centre on the Yukon River approximately 100 miles from Dawson. It has a post office, churches, and a police detachment. The town is the commercial centre for the fur trade of the Pelly River district. In 1941 the two small retail stores reported a gross sales value of $10,000. The population of the town and surrounding district in the same year was reported as 230 people.

Carmacks

Carmacks is a town of 157 people on the Lewes River approximately 110 miles north of Whitehorse. It is an Indian settlement and is the first junction of the water and overland routes north from Whitehorse. The principal activity is coal mining.

Whitehorse

Whitehorse is the northern terminal of the White Pass and Yukon Railway and the head of navigation on the Yukon River. It has churches, hotels, schools, a bank, a mining recorder office, and the Headquarters of the R.C.M.P. for the southern Yukon.

Whitehorse developed very rapidly during the war years. The 1941 Census showed a population of 754 people whereas the 1946 population is estimated at 3,680. In 1941 there were 5 manufacturing plants having a production valued at $130,000 and only one retail store.

Carcross

Carcross is on the railway route 67 miles north of Skagway. It has a police detachment, churches, a post office and a school. The two retail stores had gross sales in 1941 valued at $38,000. The population of the town was 162 people in 1941.

Teslin

Teslin is situated on Teslin Lake approximately 100 miles southeast of Whitehorse on the Alaska Highway. It is principally a fur-trading post and contains a police detachment and 2 churches. In 1941 its population was 171.

Watson Lake

Watson Lake is approximately 220 miles southeast of Whitehorse and is accessible by a spur road from the Alaska Highway. It possesses a post office and a church.

(2) TRAVEL HABITS

(A) British Columbia Mainland

Vancouver

On the basis of the Inter-Community Travel Survey made in 1945 Vancouver has a high volume of in-bound and out-bound travel. Of travel terminating at Vancouver, approximately 30% originates within the Province, 5% from each Alberta, Manitoba and Ontario, 2% from each Saskatchewan and Quebec, and 1% from the Maritime Provinces. About 50% of the in-bound travel originates outside of Canada of which 46% is from the United States and 4% from other foreign countries.

Of travel originating from Vancouver, approximately 80% terminates at points within the Province, 4% each in Alberta and Ontario, 3% in Manitoba and 1% each in Saskatchewan and Quebec, 1% in the Maritime Provinces and 6% in the United States.

Sixty representative business concerns report a personnel of 680 travelling each month. A division of this travel indicates that approximately 16% is to Victoria, 15% to other points within the Province, 14% to western Canadian cities, 5% to Montreal, 5% to Toronto and 16% to other eastern cities. About 29% of business travel is to the United States including 15% to Seattle, 7% to San Francisco, 3% to New York, and 4% to other American cities.

When business travel is classified according to the method of travel, it is indicated that approximately 35% is by air, 28% by rail, 23% by boat, and 14% by private car.

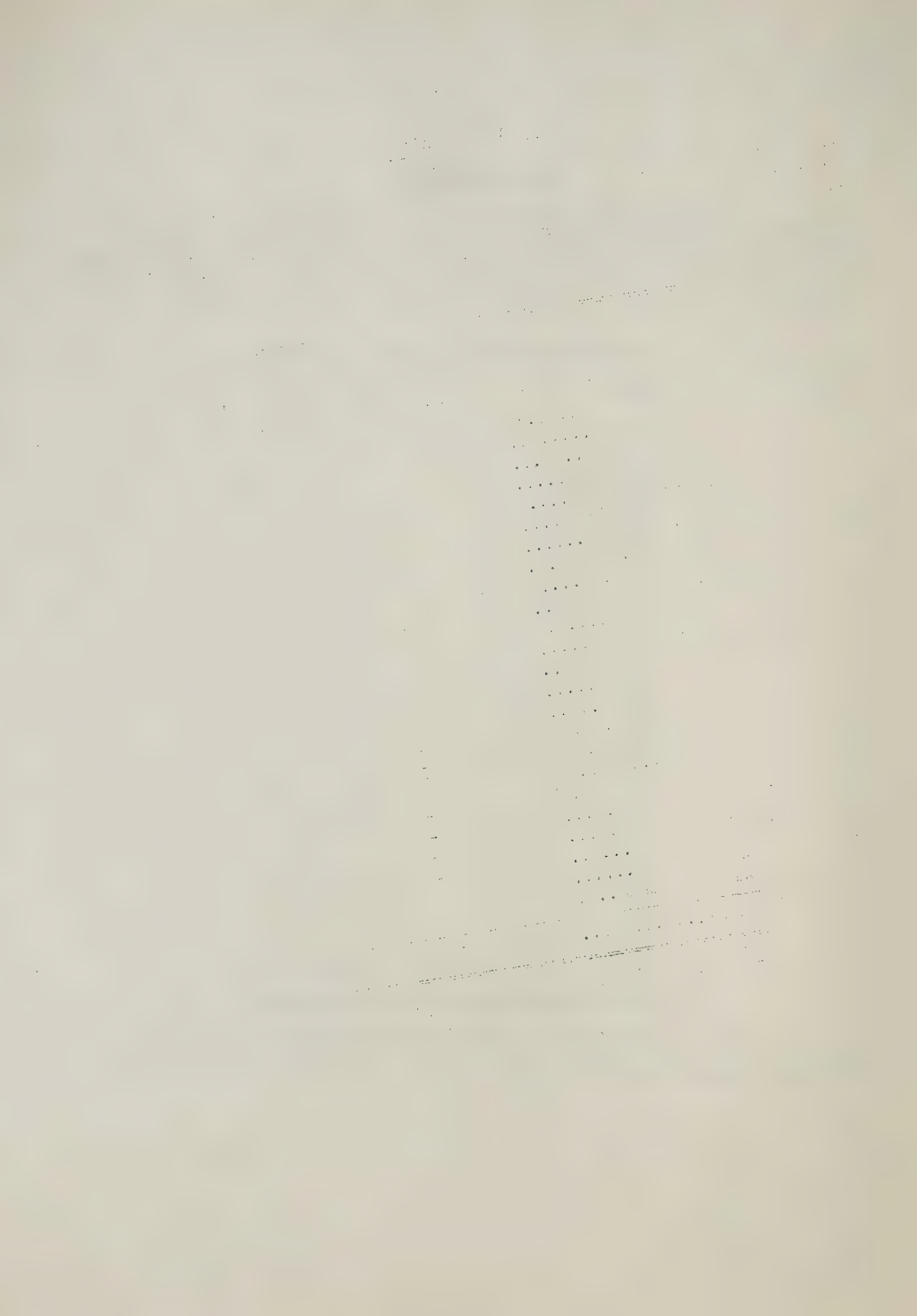
Twenty-five firms report holding company functions in Vancouver. Fifteen of these are annual functions with an average attendance of 2,325 people while 10 are other regular functions with an annual attendance of 1,812 people.

Other Communities

As the population at many of the localities under review within the British Columbia mainland is very small, and some places today are entirely deserted, no sizeable volume of well-defined travel exists. Hotel registrations at Vancouver for the year 1939 are generally indicative of the volume and distribution of traffic originating within this area:-

FROM:	Hotel Registrations at Vancouver
Aiken Lake.....	-
Bear Lake.....	3
Blue River.....	9
Dawson Creek.....	10
Finlay Forks.....	1
Fort Graham.....	-
Fort Nelson.....	1
Fort St. James...	55
Fort Ware.....	3
Germansen Creek..	-
Lower Post.....	-
Manson Creek.....	2
McConnell Creek..	-
McLeod Lake.....	-
Nelson Forks.....	-
Pinchi Lake.....	3
Prince George....	181
Quesnel.....	85
Red Fern Lake....	-
Thutade Lake.....	-
Tuchodi Lake.....	-
Uslika Lake.....	-
Watson Lake.....	-
Williams Lake....	66
Total.....	410

The fact that travel originating within this mainland area gravitates almost entirely towards Vancouver is evident by a comparison of the hotel registrations at Edmonton.



FROM:	Hotel Registrations at Edmonton
Dawson Creek....	-
Fort St. John...	8
Fort St. James..	-
Prince George...	-
Quesnel.....	-
Williams Lake...	-

(B) The Yukon Territory

The travel habits of the poeple of the Yukon district are largely local in nature and confined between Whitehorse, Mayo and Dawson. There is, however, some seasonal travel outward from the territory during the fall and inward during the spring of the year; this movement is primarily related to the seasonal character of placer mining.

(3) TRANSPORTATION REQUIREMENTS

(A) British Columbia Mainland

The basic transportation requirements of the British Columbia mainland are quite adequately served by existing surface facilities. While it is true that the general level of service is not all that may be desired in regard to frequency and convenience yet the volume of traffic originated by the majority of localities does not warrant an increase in services. Under conditions such as these air service may be either the only service available or may complement the existing surface facilities.

For a number of mainland communities including Two Brothers Lake, Thutade Lake, McConnell Creek, Aiken Lake, Bear Lake, Uslika Lake, Takla Landing, Germansen Landing, Manson Creek, Fort St. James, Fort Ware, Fort Grahame, Finlay Forks, McLeod Lake, Tuchodi Lake, Blue Lake and Red Fern Lake air service is the only year-round means of transport. However, the requirements of air service at many of these points have during the past few years entirely disappeared. Red Fern Lake, Blue Lake and Tuchodi Lake were points within a hunting area and the only means of transport was by air. Today, however, these points are accessible by way of the Alaska Highway. Two Brothers Lake, Thutade Lake, McConnell Creek, Uslika Lake, and Germansen Landing were principally mining camps but present day activity has so declined that their requirements do not warrant an air service. Fort St. James, Manson Creek, Takla Landing, Aiken Lake, Bear Lake, McLeod Lake, Finlay Forks, Fort Grahame, and Fort Ware are very small communities which do not have a suitable means of surface transport and their requirements for mail, supplies and local transportation may be readily served by charter operations at Prince George.

As noted under the section dealing with the general review of the area the population of the northern interior is relatively small. Considering population on a geographical basis, the 1941 Census indicates that the Quesnel-Williams Lake area has a population of 7,467 people; the Prince George area, 5,253 people; the north-eastern plain area, centering on Fort Nelson, 133 people; and the central-eastern plain area, centering on Fort St. John, 7,929 people. These areas, with the exception of the north-eastern plain area, do require a regular air service. The north-eastern plain area does not require a regular air service, but at present Fort Nelson is served under a mail contract and due to its location on a necessary route via Fort St. John, it may be considered as a point of call.

The communities of Atlin and Telegraph Creek in the northwestern part of the Province are served by water transportation during the open season of navigation. Freight and supplies, and the great majority of local traffic, are moved from Carcross, Y.T., by the water service. There are also irregular transportation requirements in the Atlin mining district which may be served by charter operations. During the winter months the only means of serving Atlin and Telegraph Creek with a mail service is by air.

(B) The Yukon Territory

Whitehorse is the only community within the Yukon Territory having year-round surface transportation service. Dawson, Mayo and Selkirk are dependent upon water transport during the summer months and air service during the winter months. As evidenced by the statistical review there is a need for air service between Whitehorse and Dawson not only for the year-round transport of passengers but also for the movement of supplies during the winter months. There is also a year-round movement of traffic between Whitehorse and Mayo and, during winter months, a movement of supplies between Dawson and Mayo. During the summer period Selkirk is served almost entirely by water service from Whitehorse but during the winter period relies on air service. Watson Lake and Teslin do not require air service; Watson Lake is a United States army post and with the withdrawal of the army personnel there will be no need for air service; Teslin has never required an air service and may be served by the Alaska Highway, being but 87 miles from Whitehorse.

As noted under the section of this report dealing with the general review of the area, the economic activities of the various localities within the Territory are not of a prospecting, claiming, or development nature similar to that which exists in the Yellowknife and Red Lake districts. The proven areas have been largely exploited, and from the centres of Whitehorse, Mayo and Dawson are accessible by road. Under these circumstances there is no immediate necessity for the establishment of local services by charter operators.

(4) AIR TRAVEL POTENTIAL

(A) British Columbia Mainland

The general review of the British Columbia mainland area indicated the relative smallness of the population within the central and northern interior; the minimum of inter-community and trade centre relationship;

and the relatively low level of economic activity. Under these circumstances the principal advantage in favor of air service rests on the fact that surface transportation either does not exist, or else is not reasonably available throughout the year.

Within this interior section the statistical review indicates that the Omineca-Rocky Mountain Trench area cannot be considered as having any sizeable air travel potential. As previously noted a number of localities within this area are now deserted and for those which do remain, the principal requirement is for the delivery of mail, the passenger traffic being almost negligible.

A somewhat similar situation exists in the north-eastern plain area which has less than 150 people and where a minimum of relationship exists with the rest of the Province. With land service to this area now possible via the Alaska Highway it does not appear that the present potential for either charter or regular air service is of any importance.

There is a local seasonal potential in relation to mining at Atlin and the distributive trades at Telegraph Creek which can be served by charter operations. As shown by the statistical review air traffic volume up to the present time in this district has been relatively small. During the closed season of navigation the principal requirement for air service is the transportation of mail, and secondarily the irregular movement of supplies.

(B) The Yukon Territory

As evidenced by the statistical review the air potential within the Yukon Territory depends largely upon traffic generated at Whitehorse, Dawson and Mayo. The greatest proportion is made up of traffic moving between these three points with only a limited volume of traffic passing out of the Territory.

Placer mining within the Yukon is a seasonal undertaking which is conducive to a seasonal movement of employees. However, placer mining production is not large and the amount of traffic which may be realized from this source is not substantial. Furthermore, placer mining developments do not involve a rapid expansion of business travel as does lode mining. The large capital outlay required, the long period of development, and a limited margin of profitableness, does not make placer mining attractive to a large number of small operators.

The Yukon Territory has developed a sizeable tourists trade which at the present time is handled almost entirely by the existing rail and water carriers. With further development of the tourists business it appears that some portion of this travel would use air service usually going one way by boat and returning by air. Furthermore, the opening of the Alaska Highway will allow people to drive to Whitehorse and travel to Dawson and Mayo by air.

SECTION 7

STATISTICAL REVIEW

Prior to the compilation of statistics on a division basis, instituted by the Air Transport Board as of July 1, 1945, financial and traffic returns for the area under review were compiled on a company basis. While such information does not permit of a detailed appraisal of operations, yet it is sufficient to afford a basis on which to trace the growth and development of air transportation within the area. It must be recognized, however, that the majority of statistics pertaining to operations within this area are based upon a wartime period and hence reflect the development of the Canol project, the Alaska Highway and the Northwest Staging Route. The statistical returns available since July 1, 1945, permit an assessment of the traffic generating capacities of the individual stations served, and the degree of financial independence of the various services.

It is proposed, therefore, to develop this portion of the report, by dividing it into the following three sections:

(1) 1943-1946 covering air services for the British Columbia Mainland and Yukon Territory.

(2) 1945-1946 covering
   (a) The Yukon services between Edmonton-Vancouver, and Whitehorse, together with the extension from Whitehorse to Mayo, and Dawson City.
   (b) The Northern British Columbia air services, exclusive of the Northern Airways' service.

(3) 1936-1946 Northern Airways service.

(1) 1943-1946 British Columbia Mainland and Yukon Territory

Financial and operating statistics for this period indicate a decline in revenue from 1943 in each of the years 1944 and 1945 and an increase in 1946 over 1945. Total operating revenues, and expenses for the four-year period are summarized in the following table:

Year	Operating Revenue	Annual % Decrease	Operating Expenses	Annual % Decrease
	$		$	
1943	2,244,914	--	2,362,251	--
1944	1,470,536	34.5	1,792,277	24.1
1945x	1,429,885	2.8	1,538,185	14.2
1946x	1,577,376	+10.3	1,476,852	4.0

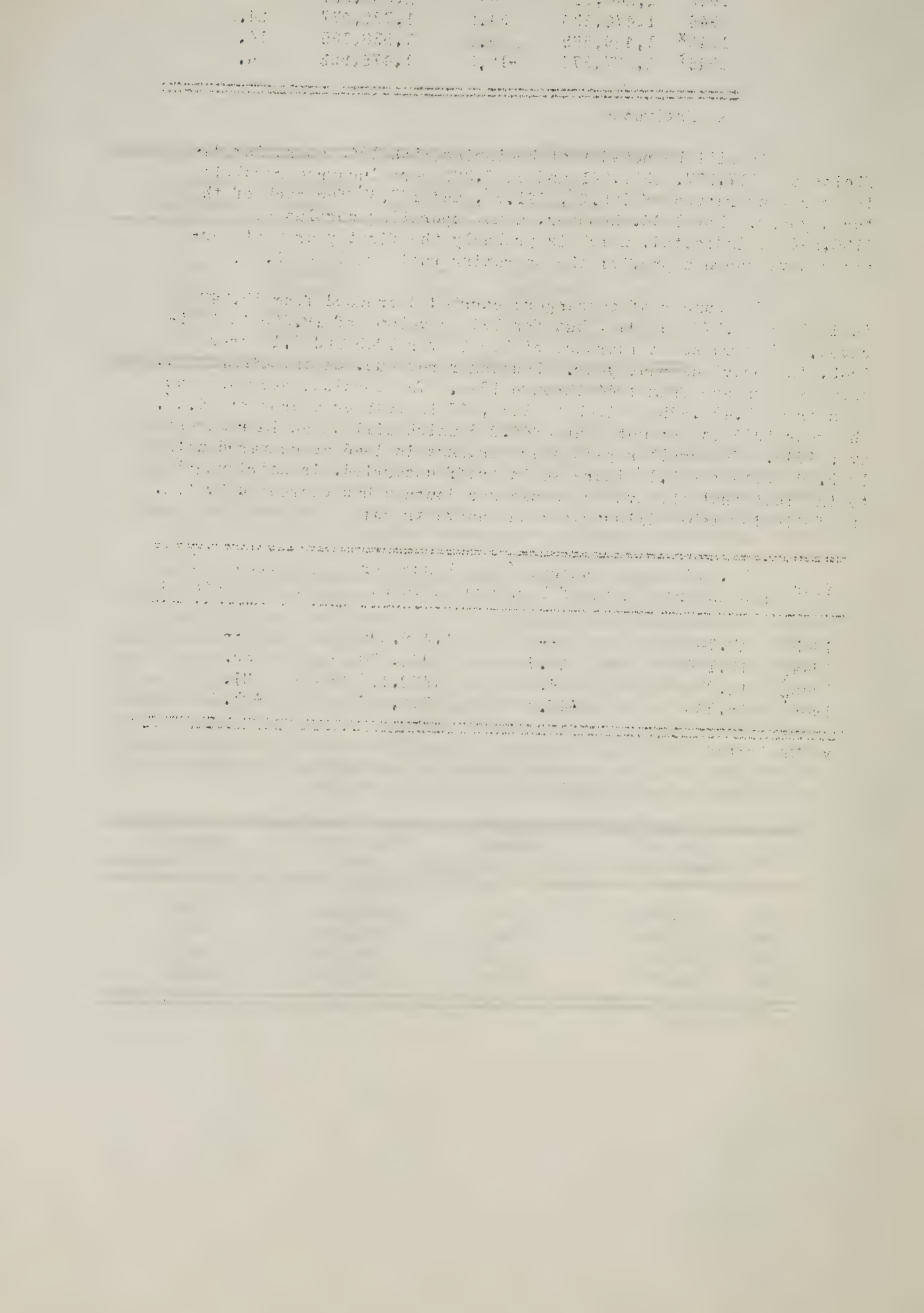
x Estimated

It will be noted that beginning with 1943 operating deficits of $117,337, $321,741 and $108,300 were incurred resulting in operating ratios of 105.2%, 121.9%, and 107.6% for each of the three years. For 1946, however, a net operating surplus of $100,524 is indicated, which is probably the first year that services have shown a profit; the operating ratio will be 93.6%.

The number of passengers carried decreased from 17,748 in 1943 to 12,378 in 1945, but for 1946 a volume of 18,300 is indicated. This means an increase of 5,922 over 1945 and 3.1% over 1943, the previous peak year. Passenger revenue, on the other hand, shows a decrease from 1944 through 1946. The absolute decrease has been from $1,498,895 in 1943 to $682,169 in 1945 or a drop of 54.5%. The year 1946 is estimated at $844,286 which will be an improvement over 1945. The smaller passenger earnings in 1946 as compared with 1943, despite the 3.1% increase in traffic carried, is attributable to the fact that the average passenger journey has decreased by 25%. The following table illustrates the above trend:

Year	No. of Passengers	Annual % Rate of Decrease	Passenger Revenue	Annual % Rate of Decrease
			$	
1943	17,748	--	1,498,895	--
1944x	13,194	25.6	902,850	39.8
1945x	12,378	6.2	682,169	24.3
1946x	18,300	+47.8	844,286	+23.8

x Estimated



It will be observed from the above that there is a disproportionately large decrease in passenger revenue compared with the volume of passengers carried. This is due to the distance factor; the average length of passenger journeys in 1943, 1944, 1945, and 1946 being 739, 679, 490 and 557 miles respectively.

The volume of goods traffic has fluctuated widely, but the trend is a continuous decline as compared with the year 1943. Goods revenue dropped from $200,387 in 1943 to $80,899 in 1944, rose in 1945 to $96,386, but fell off again in 1946 to $67,426. Goods revenue tons indicate a decrease from 303 in 1943 to 179 in 1944, a rise to 245 tons in 1945, and a substantial increase in 1946 to 391 tons, representing a betterment of 59.6% over 1945 and 29% over 1943, the previous peak year. Again the disparity between revenue in 1946 compared with 1943 despite the increased traffic in 1946, is due to a decreased average haul--396 miles as compared with 177 miles. The following table summarizes the trend in goods traffic:

Year	Revenue Goods Tons	Annual % Rate of Decrease	Revenue Ton Miles	Annual % Rate of Decrease	Goods Revenue $	Annual % Rate of Decrease
1943	303	--	119,993	--	200,387	--
1944	179	40.9	60,628	49.5	80,899	59.6
1945x	245	+36.9	61,862	2.0	96,386	+19.1
1946x	391	+59.6	69,336	+12.1	67,426	30.0

x Estimated

It will be observed from the above table that there is a disproportionate rate of decrease both in revenue ton miles, and goods revenue compared with revenue tons of goods. This is again attributable to the progressive decrease in the average haul from 396 in 1943 to 339 in 1944, to 252 in 1945 and to 177 in 1946, representing a decrease through the period of 219 miles or 55.3%.

Statistics for mail traffic indicate a decrease in mail revenue for 1944 as compared with 1943, with substantial increases in 1945 and 1946. There was a continuous and sharp decrease in mail pounds from 1944 through 1946 with a small increase in 1946 as compared with 1945; and a marked decrease in mail ton miles from 1944 through 1946. These trends are illustrated in the following table:

Year	Mail Revenue	Annual % Decrease	Mail Pounds	Annual % Decrease	Mail Ton Miles	Annual % Decrease
1943	$466,994	--	848,422	--	228,952	--
1944	353,646	24.3	368,447	56.6	83,862	63.4
1945x	575,244	+62.7	296,521	19.5	65,039	22.4
1946x	563,112	2.1	324,552	+ 9.5	13,232	79.6

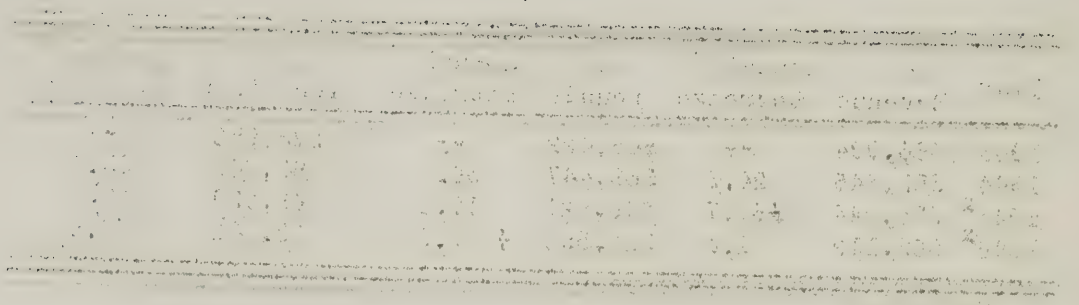
x Estimated

Revenue from all other sources has fluctuated sharply from a high of $133,141 in 1944 to a low of $76,086 in 1945; in 1946 it amounted to $102,552. The general trend shows an increase of 69.3% in 1944, a decrease of 42.9% in 1945, and an increase of 34.8% in 1946.

(2) (a) Yukon Air Services (Vancouver/Edmonton to Whitehorse) 1945-1946

A comparison of operating revenue and expenses indicates that revenues increased from $1,351,449 in 1945 to $1,484,460 in 1946, while operating expenses decreased from $1,439,982 to $1,397,304. Revenues, therefore, increased 9.8% and expenses decreased approximately 3%. For 1945 there was a net operating deficit of $88,533 with an adverse operating ratio of 106.6% while for the year 1946, there was a net operating surplus of $87,156; a favourable operating ratio of 94.1% is indicated. It is to be noted that 1946 is the first year since 1943 that the service shows an operating surplus before interest charges.

Statistics indicate a total of 17,352 passengers carried in 1946 compared with 11,330 for 1945, an increase of 6,022 passengers or 53%. Indicated revenue passenger miles for 1946 are shown at 10,103,640 compared with 5,848,952 or an increase of 72.7%. The disproportionately large increase in revenue passenger miles in 1946 is due to an increase in the average passenger journey from 516 miles in 1945 to 582 miles in 1946.



Goods revenue at $63,406 in 1946 compared with $57,707 for the previous year indicate an increase of 9.9%. Both goods revenue tons, and goods revenue ton miles show an increase in 1946 over 1945. Goods revenue tons of 189 for 1946 compared with 133 in 1945 is an increase of approximately 42% and goods revenue ton miles of 60,564 show an increase of 15,965 revenue ton miles or 35.8% over the previous year. The average haul has remained practically constant.

There is evidence of a decrease in mail revenue from $565,987 in 1945 to $556,188 in 1946. Similarly mail pounds show an increase from 247,246 to 279,648 pounds, and mail ton miles show a decrease from 54,550 ton miles to 11,144 in 1946; whereas mail pounds increased 13%, mail ton miles decreased 79%.

Revenue from other sources indicates a decrease of $42,870 from $76,086 in 1945 to $33,216 in 1946 or 56.3%.

The relative importance of the various communities along this route from a revenue producing, and traffic generating standpoint is shown in the following table which indicates in decreasing order of importance, earnings and traffic, attributable to the Yukon services only, for the year 1945, and for the six months period, January to June, 1946:

Station Earnings

Yukon Services[x]

Station		Revenue	Passengers	Goods
		$	(No.)	(lbs)
Whitehorse	1945	194,057.59	2124	137,445
	1946 (6 months)	90,027.95	976	106,725
Edmonton	1945	128,400.29	2558	24,447
	1946 (6 months)	71,442.46	1432	19,740
Vancouver	1945	113,405.89	2173	25,888
	1946 (6 months)	99,390.36	1449	15,787
Dawson Creek - Fort St. John	1945	66,973.01	1671	3,275
	1946 (6 months)	35,268.97	971	1,558
Prince George	1945	56,592.78	1790	2,401
	1946 (6 months)	33,292.44	1108	2,755
Grande Prairie	1945	30,435.51	1548	460
	1946 (6 months)	12,776.03	666	312
Fort Nelson	1945	8,423.86	102	5,073
	1946 (6 months)	4,872.31	50	3,242
Watson Lake	1945	7,710.08	91	1,822
	1946 (6 months)	1,540.99	15	1,459
Quesnel[xx]	1945	--	--	--
	1946 (6 months)	2,061.33	87	90
Total All Stations	1945	605,998.81	12,057	200,811
	1946 (6 months)	350,672,84	6,754	151,668

x Including originated and terminated traffic at Dawson, Selkirk and Mayo.

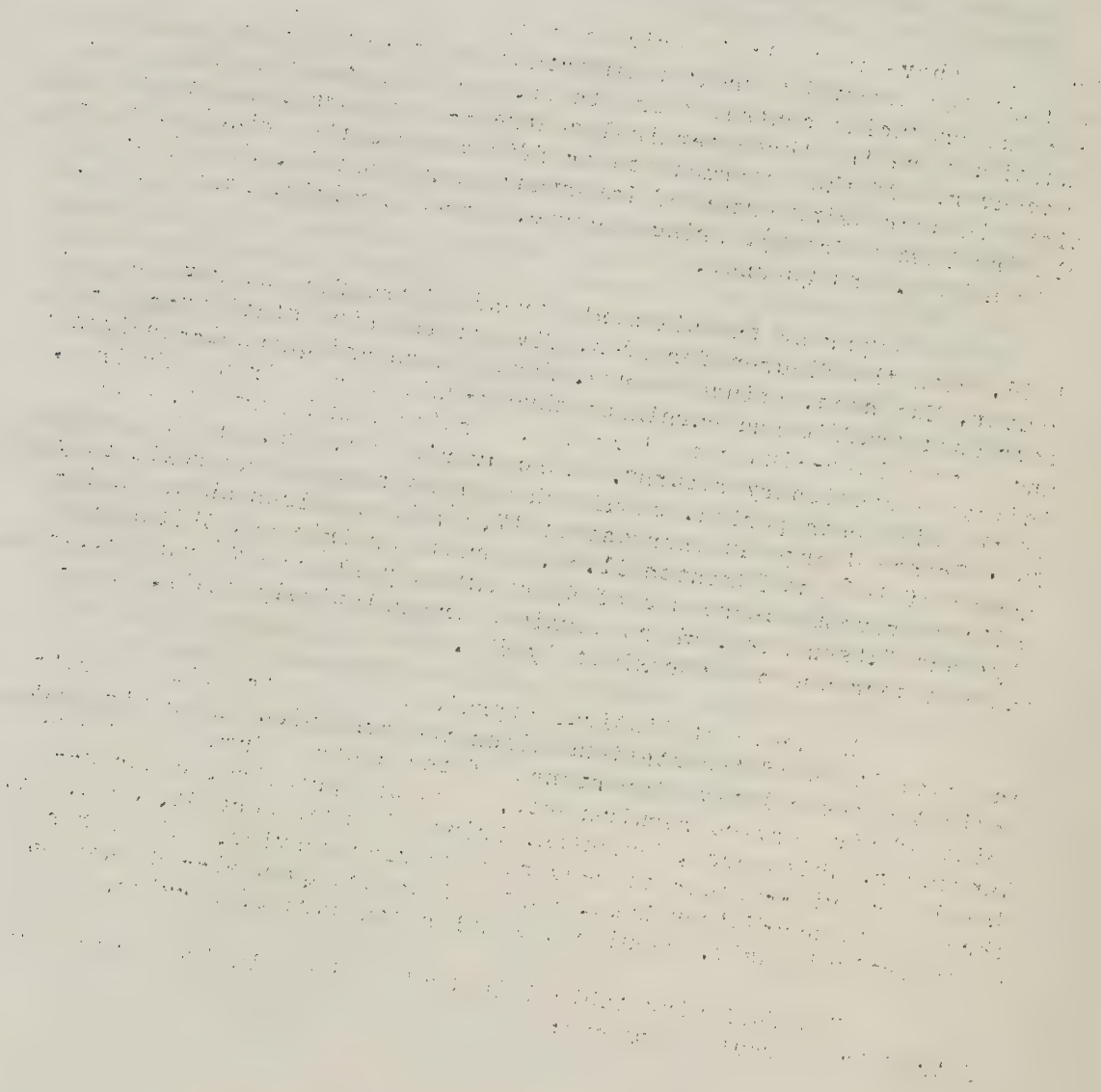
xx Figures for 1945 not available.

From the above table it is evident that in 1945 and 1946 certain communities assumed a greater importance as traffic generating and revenue producing centres than others. In 1945 the principal communities were the three terminal centres--Whitehorse, Edmonton and Vancouver. Of the intermediate traffic centres the principal stations in decreasing order of importance were Fort St. John (including Dawson Creek), Prince George, Grande Prairie, Fort Nelson, Watson Lake, and Quesnel.

Comparing the six month trend of traffic and revenue for 1946, with the figures for 1945, five of the nine stations--Vancouver, Edmonton, Prince George, Fort Nelson and Quesnel--indicate increased traffic and earnings; three--Whitehorse, Grande Prairie, and Watson Lake--indicate decreased earnings; and Fort St. John indicates stationary returns. Vancouver's earnings, on the basis of the six month period, should show an increase of approximately 75%; Prince George an increase of 17.6%; Fort Nelson shows an increase of 16% and Edmonton 11.3%. Grande Prairie and Whitehorse indicate revenue decreases of approximately 17% and 7% respectively; and Watson Lake, where earnings are relatively small, indicates a decrease of approximately 60%.

The above statistical appraisal of the traffic generating capacities of the stations along the scheduled Yukon air routes indicates the relative importance of the centres from the standpoint of air service requirements. The six principal centres--Vancouver, Whitehorse, Edmonton, Prince George, Fort St. John, and Grande Prairie--appear to require a regular service. The other three stations--Watson Lake, Fort Nelson and Quesnel-- do not on a statistical basis, require a similar standard of service.

The following table illustrates the relative importance of traffic by route segments:



Traffic and Revenues

By Route Segments[x]

1946 (6 months)

Between	And	Miles	Passengers		Goods	
			No. of Passengers	Passenger Revenues	Pounds of Goods	Goods Revenue
				$		$
Vancouver	Quesnel	388	2980	99,436.64	20,559	4,426.96
Quesnel	Prince George	69	2876	17,066.18	20,140	771.26
Prince George	Dawson Creek) Fort St. John)	180	1590	24,613.20	14,751	1,473.72
Edmonton	Grande Prairie	243	2984	62,359.63	26,369	3,556.39
Grande Prairie	Fort St. John) Dawson Creek)	119	1960	20,058.64	25,191	1,663.81
Fort St. John) Dawson Creek)	Fort Nelson	195	1900	31,863.00	29,249	3,165.58
Fort Nelson	Watson Lake	244	1693	35,525.91	20,884	2,828.11
Watson Lake	Whitehorse	226	1670	32,458.12	20,907	2,622.49

x Including originated and terminated traffic at Dawson, Selkirk and Mayo.

The apparent anomalies in the above table with respect to revenues in relation to numbers of passengers and weight of goods carried over each route segment is due to the variation in mileage between each segment.

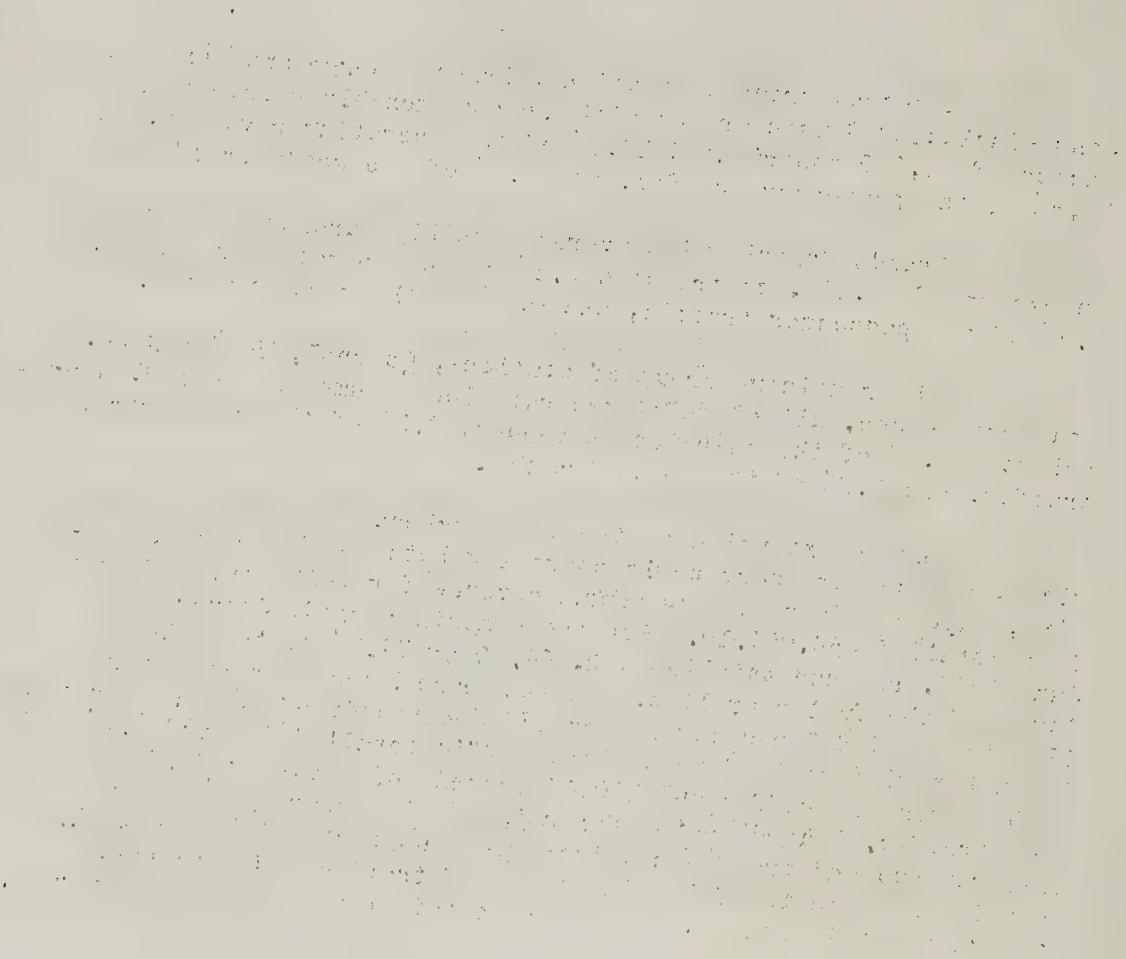
Relative to the total volume of business generated along these routes, Vancouver, Whitehorse and Edmonton each indicate average monthly earnings (1946) in excess of $11,000, the first two showing average earnings in excess of $15,000 per month. As a group the three points contributed 74.3% of the operating revenues, 57.1% of the passenger traffic, and 93.8% of the goods traffic.

A second group of stations, Prince George and Fort St. John (including Dawson Creek) with average monthly earnings in excess of $5,000 contributed 19.6% of the operating revenues, 30.8% of the passenger traffic, and 2.8% of the goods traffic.

Grande Prairie with average monthly earnings slightly in excess of $2,000, contributed 3.6% of the operating revenues, 9.9% of the passenger traffic, and 0.2% of the goods traffic.

The remaining group of stations, Quesnel, Watson Lake, and Fort Nelson, all of which generate low volume of traffic, contributed 2.4% of the operating revenues, 2.3% of the passenger traffic, and 3.2% of the goods traffic.

As an extension to the above scheduled Yukon air services, a secondary service is operating between Whitehorse, Selkirk, Mayo and Dawson. Operating revenue for this service for 1945 totalled $56,054.19. For the 6 month period,JJanuary to June 1946, revenue totalled $42,004.90 or 74.9% of the revenue level of the full year 1945. Passenger and goods traffic for 1945 totalled 800 passengers and 139,858 pounds of goods. For the 6 month period of 1946 passenger traffic totalled 538 or 67.3% of 1945 passenger traffic and 110,068 pounds of goods or 78.7% of 1945 traffic. Based on the foregoing it is apparent that the 1946 revenue and traffic has increased substantially over 1945. This is shown in the following table of traffic and earnings, at each point indicated, in so far as this route only is concerned.



Station Earnings

Whitehorse - Selkirk - Mayo - Dawson City

Station		Revenue	% of Total	Passengers	% of Total	Goods	% of Total
		$		(no.)		(lbs.)	
Whitehorse	1945	34,077.31	60.8	341	42.6	121,681	87.0
	1946 (6 months)	31,983.47	76.1	323	60.0	99,600	90.5
Dawson City	1945	15,781.93	28.2	269	33.6	14,551	10.4
	1946 (6 months)	6,133.70	14.6	104	19.3	6,807	6.2
Mayo	1945	5,111.99	9.1	160	20.0	3.626	2.6
	1946 (6 months)	3,104.58	7.4	86	16.0	3,661	3.3
Selkirk	1945	1,082.96	1.9	30	3.8	--	
	1946 (6 months)	783.15	1.9	25	4.7		
Total All Stations	1945	56,054.19	100.0	800	100.0	139,858	100.0
	1946 (6 months)	42,004.90	100.0	538	100.0	110,068	100.0

The following table illustrates the relative volume of traffic moving over the individual segments of this route for the 6 month period of 1946:

Traffic and Revenues

By Route Segments

Between	And	Miles	Passengers		Goods	
			Number	Revenue	Pounds	Revenue
				$		$
Whitehorse	Selkirk	160	22	302.72	10411	924.59
Whitehorse	Dawson City	338	702	20405.74	71318	13378.54
Whitehorse	Mayo	234	44	885.46	22803	2961.56
Selkirk	Dawson City	178	18	275.54	356	35.17
Selkirk	Mayo	74	8	50.91	94	3.86
Dawson City	Mayo	104	90	804.96	5109	294.95

From the above table it is evident that the route segments in decreasing order of importance are Whitehorse - Dawson City, Whitehorse - Mayo, Whitehorse - Selkirk, Dawson City - Mayo, Selkirk - Dawson City and Selkirk - Mayo.

(2) (b) Northern British Columbia Air Services 1945-1946

Northern British Columbia air services include the service between Prince George and Aiken Lake via Fort St. James, Pinchi Lake, Manson Creek, Germansen Lake, Germansen Landing, Takla Landing, Uslika Lake, and Bear Lake; the service between Prince George and Two Brothers Lake via Fort St. James, Manson Creek, Germansen Landing, Takla Landing, Uslika Lake, Bear Lake, Aiken Lake, McConnell Creek and Thutade Lake; the service between Fort St. John and Nelson Forks via Red Fern Lake, Blue Lake, Tuchodi Lake and Fort Nelson; and the service between Prince George and Lower Post via McLeod Lake, Finlay Forks, Fort Grahame, and Fort Ware.

The trend in revenue and traffic for 1946 indicates a marked drop amounting to virtually a complete disappearance of air transportation demand in this area. In 1945 revenue totalled $35,321 and operating expenses $43,382 producing a net operating deficit of $8,061, and an adverse operating ratio of 122.8%. Based on the revenues for the first 9 months of 1946, the total for the year should not exceed $4,596, and operating expenses $6,780, producing a net operating deficit, before interest charges, of $2,184, and an adverse operating ratio of 147.5%. The most significant fact about the 1946 financial picture, however, is neither the size of the net operating deficit, nor the adverse operating ratio, but rather the very sharp decline in revenue from $35,321 in 1945 to an estimated figure of $4,596 in 1946: a decrease of 87%.

Statistics indicate a total of 84 passengers for 1946 compared with 652 in 1945; a decrease of 568 passengers, or 87.1%, while passenger revenue decreased by $22,081 falling from $24,205 in 1945 to $2,124 in 1946, or 91.2%. Passenger revenue miles decreased from 178,840 in 1945 to 12,132 in 1946, a decrease of 93.2%. The disproportionately large decrease in passenger revenue, and revenue passenger miles compared with the number of passengers carried is attributed to the decrease in the average passenger journey from 274 to 144 miles.

Goods traffic for 1946 indicate a revenue of $372 compared with $8,445 in 1945, or a drop of 95.6%. Goods revenue tons fell from 53 in 1945 to 2 in 1946, or 96.2% and goods revenue ton miles decreased from 11,710 in 1945 to 240 in 1946, or 97.9%. The average length of haul decreased by 45.7% from 221 miles to 120.

Mail revenue accrues from two mail contracts. One contract covers the carriage of mail between Prince George and Fort Ware, on the basis of nine trips per year at a payment of $254 per trip. The second contract covers the carriage of mail between Muskwa and Fort Liard for which a mail service is provided 4 times per year at a remuneration of 15 cents per pound and a load limit of 400 pounds. Revenue earned from these two contracts in 1945 totalled $2,671 for the carriage of 6,917 pounds. For 1946 a revenue of $1,440 for the carriage of 3,468 pounds of mail is indicated, representing a decrease of $1,231 or 46.1%.

Revenue from other sources for these air services is negligible. In 1945 no such revenue was earned, and in 1946 an estimated revenue of $660 is indicated.

The relative importance of the various communities served by these air services from the standpoint of revenue and traffic producing centres is indicated by the following tables:

Station Earnings

Between Prince George and Two Brothers Lake

Station		Revenue	Passengers	Goods
		$	(No.)	(lbs.)
Prince George	1945	55.60	7	--
Fort St. James	1945	3,778.07	51	6,449
Pinchi Lake	1945	579.31	6	--
Manson Creek	1945	--	--	--
Germansen Landing	1945	209.88	7	--
Germansen Lake	1945	--	--	--
Takla Lake	1945	588.25	8	4,739
Uslika Lake	1945	46.00	2	--
Bear Lake	1945	751.77	6	64
Aiken Lake	1945	--	--	--
McConnell Creek	1945	--	--	--
Thutade Lake	1945	--	--	--
Two Brothers Lake	1945	--	--	--
Total - All Stations	1945	6,008.88	87	11,252

In the above table, the revenue shown is that which is attributable only to the air services of Northern British Columbia.

While statistics were not submitted for 1946 with which to compare the 1945 trend, the above table illustrates the small volume of revenue and traffic for this service in 1945. Inasmuch as revenue and traffic within the whole Northern British Columbia area have fallen off markedly in 1946 as compared with 1945 it appears reasonable to assume that a similar trend would be evident for these services.

Station Earnings

Between Prince George and Lower Post

Station		Revenue	Passengers	Goods
		$	(No.)	(lbs.)
Findlay Forks	1945	357.08	12	209
	1946 (6 months)	61.35	2	9
Fort Grahame	1945	103.55	1	246
	1946 (6 months)	109.44	3	64
Fort Ware	1945	320.48	5	199
	1946 (6 months)	357.80	6	175
Lower Post	1945	--	--	--
	1946 (6 months)	--	--	--
Fort McLeod	1945	818.98	25	376
	1946 (6 months)	167.60	13	195
Prince George	1945	3,581.10	51	4,647
	1946 (6 months	1,337.66	35	2,079
Total All Stations	1945	5,181.19	94	5,677
	1946 (6 months)	2,053.85	59	2,522

There is a negligible volume of traffic on the service operated between Fort St. John and Nelson Forks via Red Fern Lake, Blue Lake, Tuchodi Lake and Fort Nelson. In 1945 Fort Liard originated $837.83 for the carriage of 467 pounds of goods and for the first six months of 1946 the station originated only $80.00 for the carriage of two persons. Fort Nelson, the only other regular off-line point of call originated no revenue in 1945 and $6.50 of revenue in the first six months of 1946.

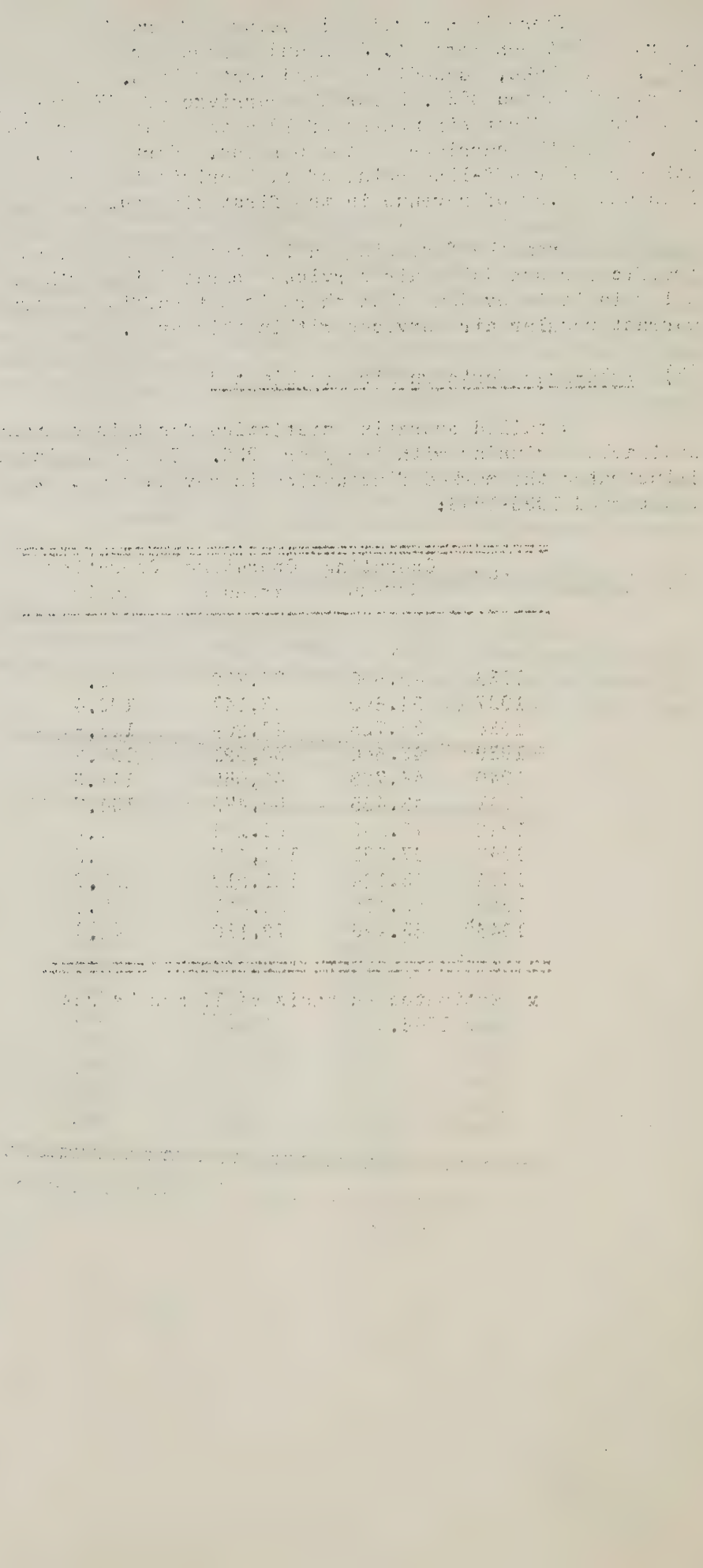
From the foregoing tables showing the revenue and traffic for scheduled air services operated in Northern British Columbia it is evident that there is not sufficient traffic to warrant regular air services within this area.

(3) 1936-1946 Northern Airways Limited

Detailed operating statistics for this company are available beginning with the year 1936. The following table illustrates the marked fluctuation in revenues and expenses for the period 1936-1946:

Year	Operating Revenue	Operating Expenses	Operating Ratio
	$	$	
1936	42,800	37,700	88.1
1937	54,640	58,147	106.4
1938	39,725	47,204	118.8
1939	43,640	50,521	115.7
1940	46,728	66,055	141.3
1941	43,455	58,473	134.7
1942	70,143	66,166	94.3
1943	67,591	106,457	157.5
1944	43,124	111,219	257.9
1945	43,115	54,821	127.1
1946[x]	83,423	72,110	86.4

x Estimated on basis of 11 months returns for 1946.



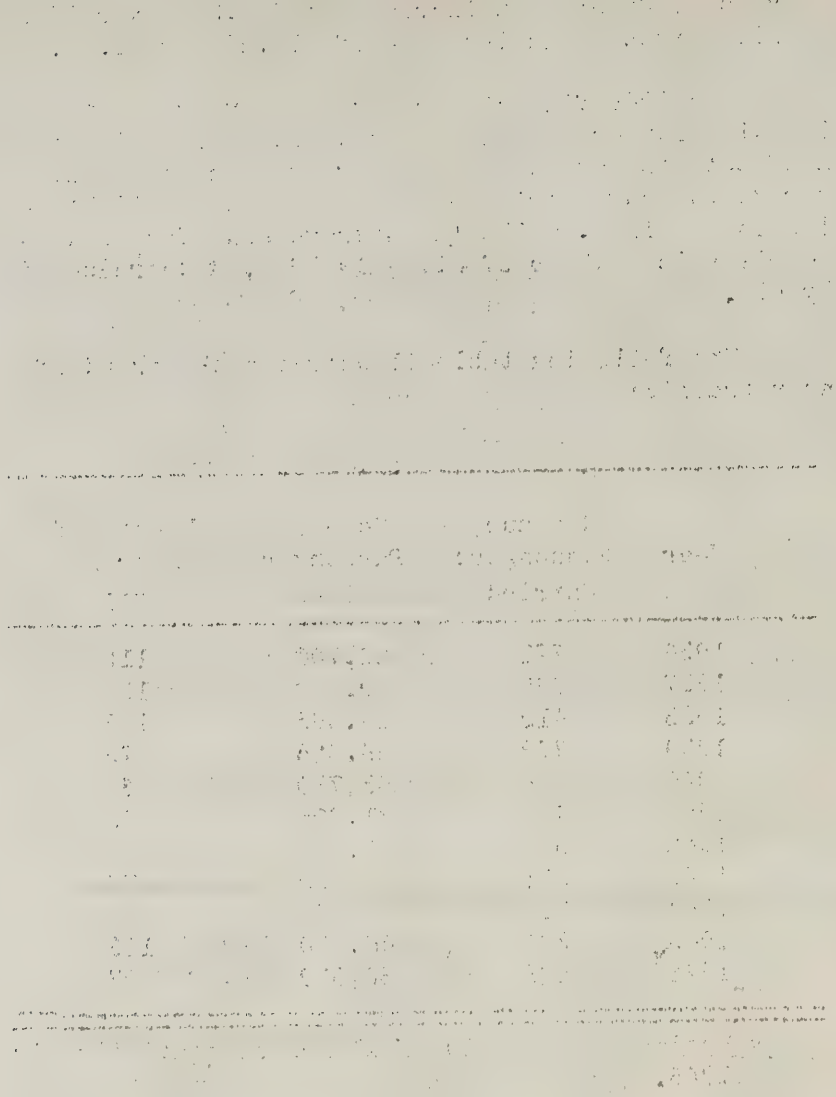
It is apparent that net operating deficits have been incurred in all but 2 years of operations. Operating revenue has ranged from a low in 1938 of $39,725 to a high in 1946 of $83,423; and the operating ratio has fluctuated from 257.9% in 1944 to 86.4% in 1946. Financial figures for 1946 are significant. Revenue indicates an increase of $40,308 over 1945 or 93.4%, while expenses an increase of $17,289 or 31.5%.

The 1946 financial record as compared with that of 1945 is quite favourable when considered in relation to the length of both the average passenger trip and the haul of goods. The average passenger trip in 1946 indicates a slight decrease from 103 to 97 miles, while the average haul for goods declined from 94 miles in 1945 to 57 miles in 1946, a decrease of approximately 40%.

The following table illustrates the trend of passenger traffic:

Year	Revenue Passengers Carried	Revenue Passenger Miles	Length of Average Trip
1936	771	86,700	112
1937	685	89,050	130
1938	412	62,595	152
1939	778	56,825	73
1940	928	63,710	69
1941	491	31,805	65
1942	515	33,789	66
1943	331	25,000	76
1944	316	22,360	71
1945	396	40,640	103
1946x	828	80,538	97

x Estimated on basis of 11 months statistics in 1946.

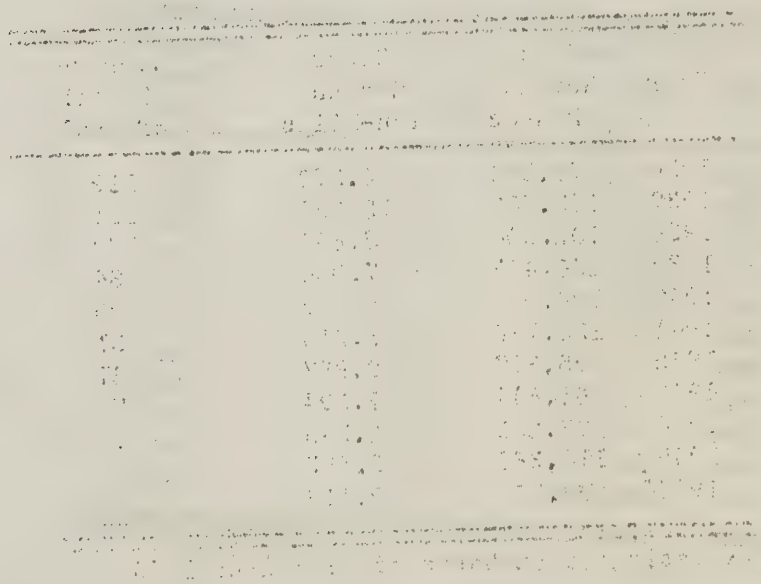


From the above table the widely fluctuating trend in the growth of passenger traffic is apparent. There was a continuous decrease in traffic in 1937 and 1938 as compared with 1936, with a marked increase through 1939 culminating in a peak passenger movement of 928 in 1940. From 1940 through 1945 there was a marked decrease in passenger traffic, reaching a low of 316 passengers in 1944. During 1946 there has been a sharp increase to 828 passengers or 109.1% over the 1945 figure of 396. Revenue passenger miles show a similar but less marked trend. This is due to the variation in the average length of passenger travel. The 1946 increase in revenue passenger miles is slightly less than the increase in revenue passengers. The following table indicates the historical trend in goods traffic:

Year	Goods Revenue Pounds	Goods Revenue Ton-Miles	Average Length of Haul
1936	73,500	4,370	119
1937	163,500	12,350	151
1938	102,000	8,650	170
1939	166,403	7,004	84
1940	126,280	5,659	90
1941	130,776	3,210	51
1942	95,377	2,887	61
1943	61,844	2,394	78
1944	78,233	2,345	60
1945	118,360	5,553	94
1946[x]	283,728	8,118	57

x Estimated on basis of 11 months 1946

The trend in goods revenue pounds shows a similar fluctuating pattern to that of passenger traffic. It should be noted that during 1946 a marked increase in goods revenue pounds of 139.7% over 1945 and 73.5% over the previous peak year, 1937, is indicated. The low traffic year was experienced in 1943 when goods revenue totalled only 61,844 pounds. The trend in goods revenue ton-miles, on the other hand, indicated a continuous decline from 1938 through 1944 with an increase from 1945 through



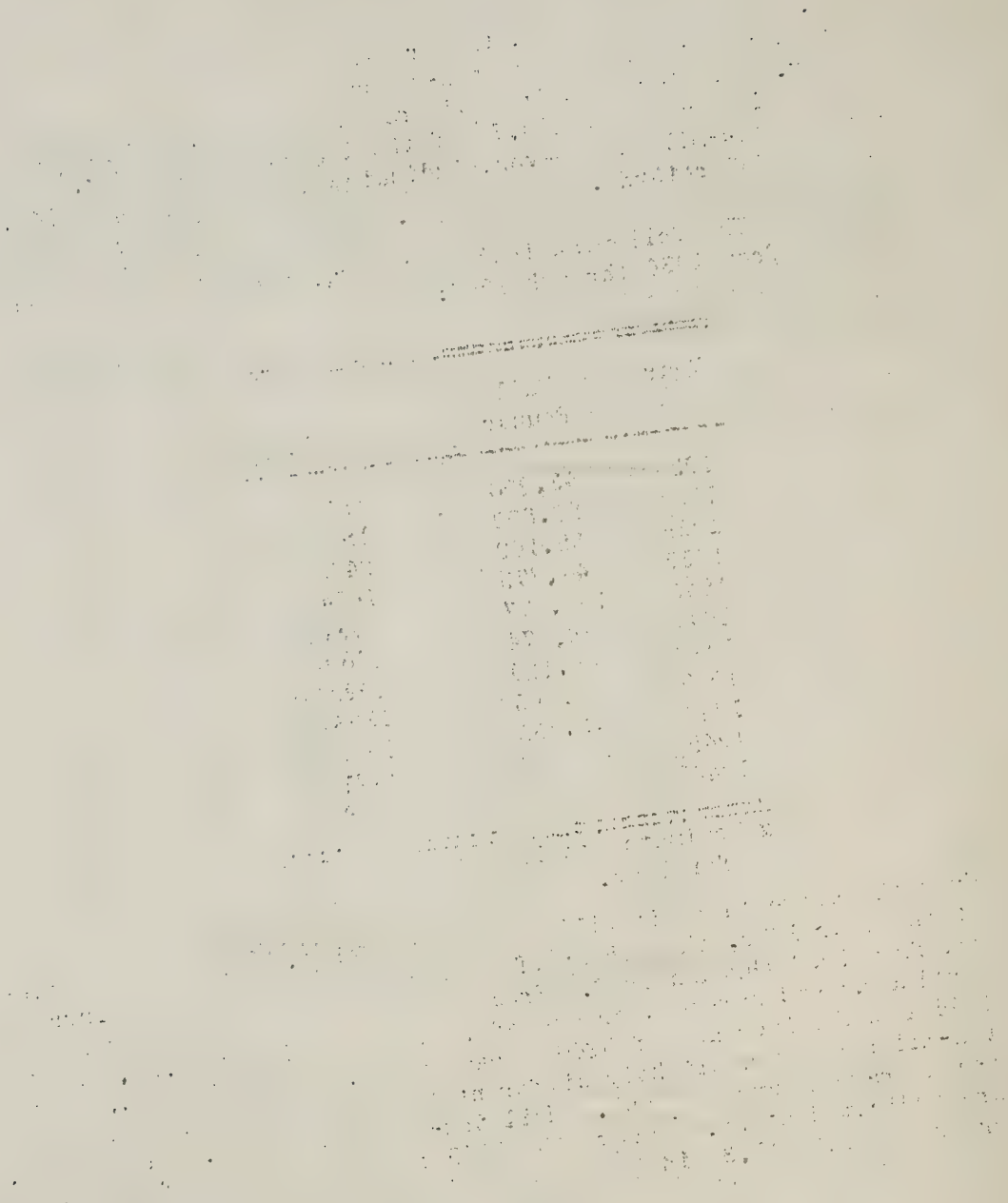
1946. The difference in the growth pattern of goods revenue pounds, and goods revenue ton-miles has been due to the distance factor. The increase in goods revenue pounds, for example, in 1946 is indicated at 239.7% of the 1945 goods traffic. Goods revenue ton-miles, however, indicates a figure of only 146.2% of the 1945 returns.

The following table illustrates the trend in mail traffic from 1936 through 1946:

Year	Mail Pounds	Mail Ton-Miles
1936	43,200	1512
1937	50,800	1520
1938	55,100	2420
1939	42,775	1474
1940	150,177	5494
1941	88,874	2689
1942	65,129	2093
1943	44,545	1396
1944	43,755	1589
1945	42,358	1471
1946x	47,568	1998

x Estimated on 11 months returns for 1946.

From the above table it will be observed that, with the exception of the year 1939, the weight of mail carried continuously increased from 1936 through 1940. From 1940 through 1945 there was a continuous and marked decrease of 107,819 pounds or 71.1%. During 1946 a small increase of 5260 pounds or 11.3% is indicated. Mail ton-miles shows a slightly different trend which again is due to the average length of haul. Mail ton-miles for 1946, for example, are indicated at 35.8% above the 1945 figure in spite of an increase of only 11.3% in the weight of mail carried.



It is evident from the foregoing statistical review that the volume of traffic does not warrant the operation of a regular air service, although the requirements of the mail service may necessitate some degree of regularity. There is, however, a need for charter service to meet the requirements of the mining interests and distributive trades of Carcross, Atlin and Telegraph Creek.

SECTION 8.

Synopsis of Public Hearing at Vancouver

A public hearing by the whole Board was held in the Vancouver Hotel, Vancouver, B.C., on Tuesday, October 15th, at which the following parties were represented:-

Canadian Airways Limited)
Yukon Southern Air Transport) represented by Canadian Pacific Air Lines.
Canadian Pacific Air Lines)

Northern Airways Ltd. represented by Mr. Norman Sangster

Licences under review - C.T.C. (A.T.) 41, 42, 60, 67, 69, 71, 79 and 84.

Representations by Licensees

Canadian Pacific Air Lines, on its own behalf and representing its constituent companies, Canadian Airways Limited and Yukon Southern Air Transport, brought evidence that the obligations imposed on the carrier by licences 67 and 79 had been faithfully met by the maintenance of a regular and high class service, under instrument flight rules, between Vancouver and Whitehorse via Fort St. John, B.C., and a secondary service under contact flight rules between Whitehorse and Dawson City. Licensee explained that, in spite of its desire to serve Williams Lake, it had not been possible to do so because of the lack of air navigation facilities at that point. Licensee represented that Quesnel, a centre of mining and agricultural activity and the northern terminus of the Pacific Great Eastern Railway is equipped with all necessary facilities and should be served. Speaking of desirable modifications, the licensee stated that Kamloops should be served but it lacks the air navigation facilities necessary to ensure a standard of service superior to that offered by surface transport. He added that Kamloops and Williams Lake should be served by a local service out of Vancouver rather than by the through service to Fort St. John; otherwise much space on the through service would be taken by local passengers, leaving a very poor load factor for the trip beyond Williams Lake or Prince George. As the through traffic to Whitehorse is not heavy, the licensee told how the operation is designed to combine the Edmonton traffic with that from Vancouver at Fort St. John so as to maintain a reasonable load factor between the latter point and Whitehorse. In the licensee's opinion Lower Post and Teslin no longer require scheduled air service.

Dealing with the Whitehorse-Dawson route, licence 79, the licensee testified that this had started as a minor operation using bush type aircraft, but that the demands of Mayo and Dawson had necessitated development of air strips and recourse to a higher standard and more reliable landplane service. He stated that traffic at Carmacks and Selkirk has been almost negligible and did not justify the provision of landing facilities of the standard required by Mayo and Dawson, and expressed the opinion that these points could be sufficiently well served by a non-scheduled operation. The licensee also drew attention to the service from Whitehorse to Fairbanks, Alaska, and implied that service to Mayo and Dawson should be combined with the Fairbanks route.

Turning to licence 71, the licensee stated that the points on the route of this licence had never been served on a scheduled basis and that there is no necessity for such service.

With reference to the routes of licences 60 and 69 which are substantially identical, and to route 84, all of which serve isolated points in Central British Columbia northwards from Prince George, B.C., the licensee testified that an air service in this district is a necessity but that there was not sufficient traffic to warrant a regular scheduled service, the required frequency being not more than twice a month and probably less.

The licensee stated that the region does demand a service in which stated tolls per seat or per unit of weight may be legally charged, as the majority of inhabitants cannot afford to charter a whole aircraft. In the licensee's opinion, the region could best be served by a charter operator based at Prince George and having the privilege of serving certain specific points on an individual fare basis.

Northern Airways Limited, the licensee holding licences 41 and 42, Atlin, B.C. to Carcross, Y.T., and Atlin to Telegraph Creek, B.C., submitted a statutory declaration to the effect that Northern Airways had fulfilled the obligations of the licensees and that, as the communities of Atlin and Telegraph Creek are completely isolated during the winter season, the public convenience and necessity requires the continuation of scheduled air service from Carcross to fulfil the mail contracts which have been in force since 1935.

Representations by other parties

There were no representations by other parties respecting these licences.

SECTION 9

SUMMARY

From a review of the economic characteristics of the area; the available statistical data pertaining to existing air services subject to the review, and having regard to the nature, extent and frequency of the railway, highway and water transportation facilities which are presently available for the service of the public concerned in the area, it would appear that the undermentioned commercial air services would be satisfactory and would adequately meet the present needs of the communities involved.

(a) A commercial air service (scheduled) of moderate frequency serving Vancouver, Prince George, Fort St. John, Fort Nelson, Watson Lake, Whitehorse, Y.T., and connecting at Prince George with the service referred to in Group IV para (c), and at Fort St. John with the service referred to in Group IV para (d). This service should be performed by multi-engined aircraft of medium type.

(b) A commercial air service (scheduled) of moderate frequency serving Whitehorse, Mayo and Dawson City. This service should be performed by multi-engined aircraft of medium type.

(c) A commercial air service of low frequency (scheduled) to provide reliable and predictable air service to the following points:- Carcross, Atlin and Telegraph Creek. This service could best be provided by "bush type" aircraft operated as seaplanes or skiplanes.

(d) A commercial air service (non-scheduled) based in the vicinity of Prince George or Fort St. John to serve the Fort St. James and Omineca area and the Rocky Mountain Trench area. This service could best be performed by "bush type" aircraft operated as seaplanes or skiplanes.

(e) It would be distinctly advantageous to Dawson City and in addition would effect substantial economies in operating costs if competitive considerations and appropriate landing facilities would permit the inclusion of Dawson City on the Canada-United States trans-border route between Whitehorse, Y.T., and Fairbanks, Alaska, in which event the commercial air service required at Mayo and vicinity could be provided most appropriately from Dawson City as a base.